The Journal

OF THE

Jamaica Agricultural Society.

The more people do the more they can do; he who does nothing renders himself incapable of doing anything: while we are executing one work we are preparing ourselves for undertaking another.

VOL. XIX. DECEMBER, 1915. No. 12.

BOARD OF MANAGEMENT.

The usual monthly Meeting of the Board of Management of the Jamaica Agricultural Society was held at the Office of the Society, 11 North Parade, Kingston, on Thursday, 18th November, 1915, at 11.40 a.m. Present:His Excellency Sir Wm. H. Manning, K.C.M.G., C.B., (presiding); Sir Jno. Pringle, K.C.M.G., and Hon. P. C. Cork, C.M.G. (Vice-Presidents), Hons. L. J. Bertram, C.M.G., D. Campbell, R. P. Simmonds and S. S. Stedman, Rev. W. T. Graham, Messrs. Robt. Craig, A. W. Douet, H. Q. Levy, A. C. L. Martin, Conrad Watson and the Secretary, Jno. Barclay.

Apologies for Absence.—The Secretary read apologies for absence from the Hon. Geo. McGrath and J. R. Williams, and Mr. Adam Roxburgh.

The Minutes of the previous Meeting which had been printed and circulated were taken as read and confirmed.

Statement of Accounts.—Statement of Accounts was submitted.

The following matters arising out of the previous Minutes were considered:—

(*a*) *Special Committee on Insurance of Crops.*—The Secretary said that all the gentlemen, outside of the Board of Management, who were nominated as members of this Committee had duly accepted, a meeting of the Committee being held the previous afternoon, but there was nothing definite to report yet. The next meeting of the Committee would be held on the day before the next Board Meeting.

(*b*) *Ladies' (Provisional) War Contingent Committee.*—The Secretary said that Mrs. A. W. Douet, who had been asked to be the representative of this Society on the Ladies (Provisional) War Contingent Committee, had accepted, and the Committee was at work.

War Gifts.—The Secretary reported that since the last Meeting of the Board, two further shipments of War Gifts had been made (as per list published in the Newspapers and in another part of this JOURNAL). He had also shipped Grapefruit, Oranges, Preserves and Magazines on board the Troop Ship for the use of the 1st. Jamaica War Contingent on the voyage over to the United Kingdom, as per list published.

The Secretary read acknowledgments received from the West India Committee of shipments of War Gifts made in July, August and September, the two former having been delayed owing to losses of mails at sea. All the fruit, etc., had arrived in good condition. He also submitted acknowledgment from Geo. Newnes, Ltd., of the first consignment of 28 bundles containing 1,438 walking sticks for the wounded soldiers.

The Secretary said he had also received a further batch of acknowledgments from the Fleet and from Hospitals, some of which he would publish.

Estimates.—The Estimates for the next financial year were submitted. The Secretary said the Office Committee had met the previous day and had gone over the Estimates and Statement of Accounts. The Instructors Committee had also met that morning and had gone over the Estimates for the Agricultural Instructors. Both these Committees reported that as they had reduced the Estimates for the current year to meet the reduced Grant, they would advise that the same Estimates stand for the next financial year. There might be some alterations in some of the allocations on the Instructors Estimates, as some changes might be made, but these would not affect the total. Agreed.

Sugar Making.—The Secretary said that some of the Branch Societies in districts where a large amount of wet sugar was made, the price of which was very low while estates sugar was high, had been asking him to find out if they could get a cheap Centrifugal machine, so that they could make a commercial sugar. After a good deal of enquiry he found that the cheapest Centrifugal would cost £173.

Mr. Craig said that the Secretary might make further enquiry because he knew of machine in use that cost a good deal less; the one he had in mind had not steam power but was driven with a sweep and mule or cattle power.

Instructors.—The Instructors Reports and Itineraries for the month of October were submitted, and referred to the Instructors Committee as usual.

New Members.—The following new members were elected:—

L. H. Allen, Porte Barrios, Guatemala.

A. H. Steele, Home Hotel, Grenada.

Robert Shepherd, (Jnr.), c/o Banana Co., Rio Grande, Nicaragua

L. C. Wilson, David, Chiriqui, Panama.

The Meeting adjourned until Thursday, 16th December, 1915, at 11.40 a.m.

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WATER SUPPLY.

Some Notes on Well Sinking.

The writer has frequently had the question addressed to him: "At what depth can I strike water?" And it is for the purpose of giving a general reply thereto, in so far as it is possible to do so, that the present collection of notes on the subject are offered to the readers of the Journal, some of whom, it may be presumed, are more or less interested in the answer.

In relation to the problem, in the first place, it may be taken as axiomatic that in all alluvial plains contiguous to the sea, the nearest point at which water may be expected in well sinking operations, is at sea level, or at a point so near thereto, that it may be considered as identical. The only modifying factor is the slope of the ground water, which varies from three to six feet per mile, and therefore the height above sea level at which water may be struck is in ratio to the lineal distance from the sea front. As for example in the Vere or Liguanea Plains, which consist for the most part of alluvial deposits in a boring undertaken, say one mile from the sea, one would expect to strike ground water, or the first spring, at a point 3—6 feet above sea level; although, on the other hand, each succeeding bed of water bearing sand or gravel, penetrated, almost invariably, results in the water level in the shaft or boring being raised and the volume of supply correspondingly increased.

The Plain of the Liguanea is formed almost entirely of alluvial deposits, in places, of undetermined depth. Under the lower part of Kingston, e.g., below North Street, they are at least 600 feet deep, but in the region above Torrington, and as far North as Barbican, they overlie a bed of sandstone, and vary in thickness from 200 to 300 feet. Contrary to what might be expected, the alluvium does not extend to Port Royal and the Palisadoes, as was evidenced by a boring made in the former place in 1894-5, which was carried 400 feet below sea level through coral and limestone in a highly disintegrated form.

The sandstone above referred to, which for the sake of convenience I designate the "Barbican sandstone" is overlaid by a bed of red clay, and seems to me to tilt up to the north of the city. This deduction is based on the following data:—

(a) In all wells north of lower Race Course, the normal water level is uniformly so much higher than sea level, that one is forced to the conclusion that the hydraulic slope in the ground water is checked at that point. Wells carried out in the section below that line, only show a maximum hydraulic gradient of about 5 feet per mile, whereas in a boring made at Quebec Lands in 1891 at a point 150 feet above sea level, and one mile in lineal distance therefrom, water was reached at 140′.

(b) At Alpha Cottage at a point 130′ above sea level water is obtained at 100 feet.

(c) At Hagley Park, 170 feet above sea level, water was reached at 134 feet.

(d) In Antrim Pen near Camp, water is obtained at 80 feet above sea level.

(e) At Lyndhurst, north-west of Camp, a 6 inch boring was carried down to 200 feet, the location being 198 above sea level, water

was found rising to sea level. From that point a 3′ boring was carried down to 420 feet, the Barbican sandstone being tapped at 256.6′ when the water level was raised to a point 158 feet from the surface or 40 feet above sea level.

This sandstone bed, unfortunately, has never been explored beyond a depth of 164 feet, but that it is an excellent water bearing stratum, and of fairly extensive area, admits of no reasonable doubt. As it probably overlies the yellow limestone (eocene) formations on on which the white limestone rock of the Long Mountain is superimposed, it offers great possibilities for water supply. Of course, it is impossible on the geological evidence to estimate the thickness of the Barbican sandstone—it might be anything from 1000-2000 feet but it would not be reasonable to expect that the head of water contained in it is greater than that already demonstrated in the boring above referred to, i.e., 40 feet above sea level. If therefore, as is assumed, the Barbican sandstone overlies the yellow clay, a boring for an artesian supply would be a hopeless quest. As Sawkins states in his report on the Geological Survey published in 1869: "If the search were made below that horizon it might be continued through the 1,500 feet of sand, shale and pebbles of the conglomerate group without success."

The alluvium of the Liguanea Plain consists of comformable beds of sand, gravel and clay, in regular succession, but of varying thickness. Very rarely do the clay beds exceed 10 feet, the sand and gravel beds being from 2 to 7 feet in thickness: in the lower part of the Plain the gravel beds, from sea level downwards, are all water bearing, and the springs increase in volume of flow the lower the boring is carried. To illustrate, if a boring is carried to 100 feet below sea level, on the harbour front, the water rises to a point 3′-4′ above mean sea level. This fact is illustrated by the following details showing stratification and the volume of water obtained from the first and the last spring tapped:—

Made ground	5	feet	
Sea sand with comminuted shells	6	„	
Clay	10	„	
Sand and gravel (yield 1,000 gals. per hour)	6	„	
Brown clay	8	„	
Quicksand	14	„	
Coarse gravel	8	„	
Clay	9	„	6 inches
Gravel	7	„	
Red potter's clay	8	„	6 inches
Fine sand	8	„	
Clay	2	„	
Gravel bed (yielding 16,000 gals. per hour) tapped only to	3	„	6 inches
	102	feet	

The water flowed over on to the surface gently from this spring, at which point the well was completed.

The following table will prove, if proof on such an obvious matter be needed, the folly of discontinuing well sinking operations immediately

the first spring is touched. As a rule these springs are only collections of surface water, and have no uniformity of supply, but respond with disconcerting suddenness to every seasonal change, and worst feature of all, when domestic water supplies are in question, they are almost invariably subject to organic contamination. It might be added that the data given below are not the result of deductions, but are figures obtained from actual experiments in the writer's operations; and apply only to the lower part of the Liguanea Plain.

The figures given under feet, represent the depth below sea level to which the boring was carried and the figures under gallons the quantity obtained by pumping tests:

Boring.	Feet Below Sea Level.	Gallons.
3 inch tube	0.	350
6 " "	-3	500
6 " "	-30	1000
6 " "	-50	1200
8 " "	-50	3000
8 " "	-60	5000
6 " "	-66	5000
6 " "	-97	16000

An inspection of the above figures will make it clear that it is not a paying proposition to stop well sinking operations immediately water is reached, which in many instances is only an example of "wrecking the ship for a ha'porth o' tar." It is within the writer's knowledge that many wells have been sunk costing considerable sums of money, yielding inadequate supply, or in other words the cost was incommensurate with the results obtained, when a further additional expenditure would have yielded results which would have more than justified the cost incurred.

The data already given as applying particularly to the Liguanea are borne out by similar results obtained in irrigation and other wells carried out in the district of Vere, where the ground water slope in the lower section is almost identical with that in the Liguanea. Another point of similarity with the upper part of the Liguanea Plain, is found in the district lying north of the limestone up-crop to the south of Parnassus and Halse Hall, where the ground water is found at an average height above sea level of between 120 and 130 feet. But there the similarity ceases. All the wells in that belt are found in a gravel bed overlying the "yellow clay," and any attempt to improve the supply by continued boring beyond that horizon would be, in Sawkin's words, "a hopeless quest." It might be considered, and reasonably, if facts to the contrary were not known, that all wells in the Denbigh, Parnassus and Halse Hall district owed their supply to the Rio Minho which runs through these properties. In point of fact, however, experiments have proved that this is not the case. As for example at Denbigh, although the irrigation shaft is in contiguity to the river, yet when, to use a local idiom, "the river is down," the ground water springs are not immediately affected. On one occasion when the river had been in medium flood for 48 hours, the difference between the level in the river and the level in the shaft, 250 feet away, was 2.35 feet, and this when the shaft had not been pumped for weeks previously. An almost similar difference was observable at Parnassus, demonstrating that the source of the ground

water in both cases was remote. and that the river is not the immediate source of supply. As would naturally be expected, however, the springs in the irrigation shafts at both the properties referred to, respond quickly to seasonal influences. Three or four inches of rain will have an immediate effect on the yield within a few days, while the effect of the river even in flood is not felt for weeks. In seasous of normal rainfall irrigation shafts of suitable dimensions in that district can be depended on to yield 400 cubic yards of wate. per hout, falling to 180 cubic yards in times of severe drought.

W. KIRKPATRICK,

CORN MEAL.

MILLING OF INDIAN CORN.

We have had numerous enquiries as to how the Cornmeal of Commerce is manufactured and we are glad to publish the following information:—

The flour made from Indian corn or Maize is known in this country as cornmeal. There are many different methods of preparing it. The simplest, and one of the most prevalent until within a few years, consisted in grinding the kernels between stones and using the whole meal, coarsely sifted, thus produced. Immense quantities of Indian cornmeal prepared in this way are still used throughout all parts of the country, especially in the Southern States. It is evident that an Indian cornmeal prepared in this way would have nearly the same composition as the kernels from which it is prepared. A finer grade of Indian cornflour is produced by grinding as above indicated and bolting to remove a large portion of the bran.

The flour thus produced differs only from that first described in having a smaller content of fibre and mineral matters, due to the removal of all or a portion of the bran by bolting. On account of the high percentage of oil in the germ of Indin corn, and by reason- of its hygroscopic character, the flour thus prepared is apt to become rancid or moldy. To prevent this change and also to secure a more palatable grade of flour, the modern improved processes of grinding and preparing Indian corn have been introduced. Following is the description of the process of preparing the flour from Indian corn as practised by one of the largest mills in tbis country.

The Indian corn is passed through a machine called a degerminator, which breaks the corn and removes the germ, but does not separate it. The separation is made by means of bolting cloths and currents of air. After the germ and hull are removed, the corn is ground between iron rolls properly corrugated. The meal is again submitted to the process of bolting and purifications by currents of air, and the refined product is the granular meal. The offal consists of the hull, germ, floury particles, and some of the flinty portion of the corn which is lost by the process not being sufficienty perfect to remove it and include it in the granular meal. The offal thus removed constitutes from 30 to 35 per cent of the weight of the corn. depending upon the conditions of the grain. Artificial heat is used in the manufacture of corn meal, which insures better results, and the meal will keep longer. This granular meal is not in favour in the Southern States. They prefer a soft meal made in the old way.

Aside from the method of manufacture, there are two distinct grades of Indian cornmeal found in the markets of the country, and these are distinguished by their color. There are two leading varieties of Indian corn in the United States distinguished by color, viz., the white and the yellow. The white corn makes a flour of a colour and texture which in some intancds is said to be quite like those of flour made from wheat. On the other hand, the yellow corn makes a flour of a rich yellow color, which is highly prized in some quarters on account of imparting its color to the bread made therefrom. When prepared in the same way there is probably but little difference in the nutritive value and palatableness of these two varieties.

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Our own red corn makes a meal with a deep rich colour, and as it contains *all* the germ of the corn, it is very nutritious, much more than the shop cornmeal, but it does not keep long. There is however no necessity for keeping, as it can be made any day as required, or at any rate, at short intervals. Every householder should be equipped with a corn mill, a small one, which can grind a quart of fine meal within 5 minutes only costs 20s.

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There is as much difference between corn meal made at home in flavour and nutrition and beneficial qualities to the human frame as there is between the white bolted flour imported and the whole wheaten flour. We do not talk from theory as we have been long interested in dietetics and have never been afraid to take the trouble to experiment. Home made corn meal, however, must always be sifted through a fine sieve to get out most of the coarser particles which comprise the husk. Thus although the mills we recommend can grind fine as dust in one operation, we prefer to put the corn through twice: once coarse then sieve; then put the coarse particles in the mill, grind and sieve again. There is a great saving on making one's own cornmeal when home grown corn is used—which does not cost more than 1d. per quart to produce; as the labour in a small household does not count. The corn meal, therefore, cost 1d., or say, if corn had to be bought, 1½d. per quart.

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PIGS.

We have asked for experiences of small settlers in different branches of agriculture. Here is an experience in Pig Rearing by a man who has made money in a small way in pigs. It is not to be taken that we agree in all the points. Indeed we entirely differ from the practice of allowing the animal to wallow in its own mud. Thousands of experiences here and elsewhere show that this is a disease engendering practice. Where an animal is fattening, however, it is fat and gone to the butcher before anything happens to it. Still we believe in clean mud.

PIG REARING.

(*By Joseph Barrett, Belvedere, Portland, Buff Bay P.O.*)

I have been rearig pigs for the past 25 years, and I am not afraid to spend money for a good pig. My pigs are fed three times a day. They get heavy food in the morning and light food in the evening. Hog slips form good food especially in the evenings. Feeding troughs must be perfectly clean. Pigs need water to wash and they prefer

clean water. Give clean water also to drink. Poland China pigs are very good; though they take more to feed them, yet they give quicker and better returns than common pigs. I sold an 18 months' pig for £5 and a 12 months' pig for £3. A growing stake kept in the sty is essential for pigs to scratch. It must be free from knots. Ripe and green banana and cocoe head (the two latter boiled) and corn soaked in boiling water are very good foods. A sow that has young pigs should not be fed with pot water from boiled banana, as it counteracts the flow of milk. Pigs don't need much salt in food. Potato slips also prevent a good flow of milk. Corn, roasted or parched, with water on to soak it, given as food along with the water helps wonderfully in the production of milk. Sows in pig ought not to be fed on Trya Cocoe until after pigs have been born, as it causes miscarriage. Sows put to Boar in December, give spring pigs. Pigs can be weaned in 8 weeks. Sows to give 2 litters per annum. Pigs born in the Fall never turn out nice in this district. I like to purchase pigs of different breeds and not a pair of same breed. Change the pen of pigs occasionally. A good breed of pigs is more docile than common pigs. Put shoats out at 9, 12 or 18 months. Turn pigs at 6 weeks and cut tail. I recently sold a pig 5½ months old for 50/- and one 4 months for 90/-. For Hog fever give a drench of brown soap lather and broomweed pulled up by the roots and juiced, a ½ pint bottle for grown up pig. This causes it to vomit and cures. If pig refuses food and blows short and coughs, give 1 tablespoon castor oil and 3 drops jeyes, also get red brick powdered and sprinkle over food. For hog cholera, give strong coffee dregs and boiled logwood heart. Pig rearing is a very good industry. I admit I am still a novice to some of the points connected with it. I wish I had more money to devote an adequate amount to the Industry.

MORE REMARKS ON THE PIG.

(By J. A. Ogilvie being address given before the Porus Branch Society, Porus, September 6th, 1915. Concluded from August Journal.)

When a stye fed pig becomes irritable and costive, walking about in an uneasy manner, turning over his food with his snout and refusing to eat as much as usual, he is commonly said to be "cloyed." (Note that in Indigestion he lies down and grunts as if in pain, refusing all food, while wind continually passes from him.) This "cloyed" condition is nothing more than what the "Vets" style "plethora," that is, owing to the lack of exercise and abundance of rich food, there is a formation of superfluous blood and fat. The remedy for this condition is to lower the quantity and quality of the food at once, and to let him out of the stye for a run, or better yet call in the butcher and sell him.

If you cannot get rid of him and he has to be kept in the stye, then give him not less than five tablespoonsful of castor oil in his slops, followed by a teaspoonful of salt-petre which can be sprinkled over his food, being first finely powdered or added to his drinking water. His supply of food must, of course, be considerably lessened, and it should be constantly remembered that pigs in a plethoric state are peculiarly liable to apoplexy and disorders of the blood.

It sometimes happens that a sow drops a fine litter of young but they do not thrive, and die off one by one during the first two

or three weeks of life. Other causes being absent, you may be sure that the sow has been eating some rotten or mouldy food which has completely spoilt the quality of her milk.

Change the sow's food at once and give her a mild dose of castor oil. Then obtain four ounces of each powdered gentian and powdered chalk from the druggist, mix them together, and sprinkle a tablespoonful of the mixture over her food at every meal until it is finished. If these remedies are not obtainable, our old friend, Baking Soda—a threepence worth from the Chinaman— will be found to answer the purpose almost as well. I remember using a box of tooth powder on one occasion some years ago and it acted like a charm, many tooth powders being largely composed of chalk. On pens, where white lime and milk are usually available, a good remedy should be lime water, half a cup full in a quart or so of milk, twice a day. A little charcoal and fine salt may be given every day or two, but above all see that the sow's food is fresh, pure and wholesome.

Pigs do not like cold weather, and I have always observed that when the temperature falls towards Christmas they huddle together, at nights and give vent to their discomfort by loud squeals. Unless highly and regularly fed they are never in the best of condition between November and March, because a portion of the food is used up to make heat. I have been told that it does not pay to fatten pigs in real cold countries during the winter.

Pigs are very healthy animals in Jamaica, and in dealing with them the simplest remedies will be found the best. Beyond a little mange, easily overcome by jeyes or kerosine oil, pigs that run about the commons are seldom in any way sick or ailing. Stye fed animals are more liable to disease. Some people assert that pigs suffer from malaria which causes an enlargement of the spleen as in human beings but I have never noticed this condition. Possibly when that book by a local expert comes along all these little points will be dealt with.

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GOVERNMENT STOCK FARM AT HOPE.

SECOND AUCTION SALE, FEBRUARY 16TH, 1916.

(By P. W. Murray, Headmaster Farm School.)

For the second time in the history of the Government Stock Farm the public will have the opportunity of obtaining at popular prices imported and native bred animals, which are to be put up at public auction on February 16th, 1916.

At our last and first sale held on February 18th, 1914, twenty-one bulls were sold at prices which were considered to be satisfactory both to the public and the Farm. In one instance a native cow fostering a pure bred Red Poll Bull calf, was sold for a price in the neighbourhood of £15. The owner, I am told, now values the bull at £100, and is extremely well pleased with his purchase.

Since the last sale the efforts of the Farm have been mainly directed to the rearing of heifers, while the public has shown a good deal of enterprise in the rearing of bull calves on native cows.

The Farm since its inception in 1910 has sold over 70 bulls to cattle breeders in the island, and it is hoped that a marked improvement in the qualities of native cows may soon become evident from this distribution of bulls.

The value of a pure bred animal as a sire is generally admitted; first in himself the sire of pure lineage possesses qualities superior to those found in ordinary stock and second being bred along stated lines for generations, his characteristics are fixed, and he invariably impresses his progeny with the leading attributes of his breed. In consequence the truer bred the sire the more quickly will a herd be bred up in any direction either for beef, milk or both.

At this our second sale, the Farm is putting up at auction at some sacrifice of its immediate interest, 38 lots of pedigree and selected bulls, cows and heifers representing some of the best strains of dairy and general utility cattle at the Farm, also a pair of 15 hands brown geldings by 'Water Jacket' broken to saddle and draft.

Five bulls are offered consisting of 3 stud bulls, and two young bulls sired by an imported Guernsey bull.

The imported Red Poll Bull "Royal Bey" has been over four years in the island and may be regarded as thoroughly acclimatised and a proved sire. He has been used in moderation and is now in his prime for stud purposes. The Red Poll is, without doubt, invaluable both for beef and milk production. One of the best cows at Hope weighed, before calving 1,334 lbs. and yielded 15 quarts milk per diem containing 4% of milk fat.

The best grown of the bulls reared in Jamaica weighed 1,054 lbs. at 21 months. His mother produces a maximum of 13½ quarts of milk in 24 hours. Experience in Trinidad showed that of all the English breeds of cattle tested at the Government Farm there, the Red Poll produced the best results when crossed on cattle with Indian blood.

The value of this breed is so well known to experienced and successful penkeepers that we have on our books at the Farm orders from penkeepers for 12 unborn Red Poll Bull calves to be sold at a week old at £3 each, and for 5 half bred bulls at £20 each from a leading breeder of beef stock.

Besides the pure bred imported bull "Royal Bey" there will also be put up three pedigree Red Poll heifers bred in England by Mr. K. M. Clark and registered in the Jamaica Herd Book. These heifers are thoroughly acclimatised, having been born at Hope and reared in the open pastures. They are all in calf to "Sudbourn Crowfoot" a pedigree Red Poll bull of great value and have been tuberculin tested. Four half-bred Red Poll heifers, daughters of the Red Poll bull "Royal Bey" will also be sold. Their dams are all milkers of the Jersey, Ayrshire, Devon and South Devon strain and should prove to be valuable animals for dairy purposes.

Of the pure bred Jerseys there will be offered the Jersey bull "Golden Lad" who is a remarkable reproduction of his sire "Lord Rothschild," a winner of 1st prize for yearling bulls in the island of Jersey and is undoubtedly the handsomest and most typical Jersey bull in Jamaica to-day (see photo in catalogue—Lot 12).

Three imported pedigree Jersey cows all typical of this excellent breed of dairy cattle are also for sale. These animals are all valuable ones and are only offered to the public to satisfy a continual and persistent demand from some of the leading dairymen of the island. They are all about five years old, regular breeders, in calf and thoroughly acclimatised to our conditions in Jamaica.

There is a natural aversion to the Jersey by penkeepers; these animals being small and not easily fattened after their time of usefulness as milkers is ended. A touch of Indian blood will overcome this difficulty. Our bull "Experiment," which is for sale, is half Jersey and 1-8 Indian weighing on his first birthday 736 lbs., and at 23 months 1,086 lbs., and now scales over 1,600 lbs. after being used on 40 cows in the year. This bull has already sired the most promising of dairy progeny and can be recommended with confidence as a first class producer of hardy and productive dairy cattle suitable for general conditions in Jamaica. A heifer similarly bred weighed 1,000 at 2 years old on grass only. Dairymen who desire to increase the size of their heifers, especially those of a Jersey strain, would be well advised to consider the qualities of this truly excellent bull; as we have found such a cross retains all the desirable qualities of the Jersey with added size improved constitution, short coat and absence of ticks.

Lots 14 and 15 consisting of two Guernsey bulls sired by an imported Guernsey bull "Glenwoods Hazel's Pride," represent the first attempt of the Farm in breeding animals of this famous dairy breed. Unfortunately their sire died after being six months in the island from tick fever and we have been unable to continue this work. These bulls are both young, one being one year and six months, and the other one year and ten months old. "Duchess Pride," which is out of a Canadian Grade Guernsey cow is a particularly fine specimen of the breed. Either of these bulls should be most useful for dairy purposes.

A selection of 11 dairy cows trained to milk 'without calf' is offered. These cows are principally of the Jersey strain and should make a valuable addition to any dairy herd or be suitable for private family use. They are all quiet, easily handled, trained to milk without their calves and tuberculin tested. Their average, by our records which are most carefully kept, is from 6 to 9 quarts of milk per day when fresh, with an annual milk value of from £16 to £22 per year.

Along with these, four native cows to milk with calf are to be sold, two of them having been bred by Sir Sydney Olivier giving from 4 to 6 quarts while rearing the calf. Any one of this lot should prove a useful family cow.

Of the heifers besides the Red Poll, two Shorthorn and three Zebu-Jersey all of good breeding and of fine promise are to be offered. These animals present a fine opportunity to the dairyman or private owner who has grass at his disposal as in a year or two his investment will more than be made good. All these heifers are tuberculin tested and thoroughly acclimatised to our conditions in Jamaica.

Full details of the animals are published in the Sale Catalogue obtainable from Mr. M. P. DaCosta, Harbour Street, Kingston, or from the Director of Agriculture, Hope. This catalogue contains full details of the record of each animal inclufing pedigree, milk yield, weight, etc., with photographs of the bulls and rggulations governing the sale. Seven hundred and fifty copies of this catalogue have been issued from the Government Printing Office for distribution to persons interested.

Anyone desiring to see the animals or the records may do so by appointment. We shall be pleased to furnish information about any animal that may be desired, and in the event of our advice being required in a selection the Department will be willing to assist the public.

The Department is also willing to receive bids by post from intending purchasers unable to attend the sale. These bids will be handled confidentially by the Director of Agriculture who will appoint representatives for each bidder at the sale. If for example, a client were to send a cheque for £100 to the Director asking him to bid for the Red Poll bull "Royal Bey" up to this price, should the bids for Royal Bey rise to £70 only our client would get the bull for £30 less than his limit. A gentleman from Westmoreland adopted this method at our last sale and he got two of our best bulls at most reasonable prices.

Where bids by letters are of equal sums they take precedence in order of the date of registration in the office. The sale is fixed for the 16th of February next, at 11 o'clock. Mr. DaCosta of Kingston, has been authorised by His Excellency to conduct it.

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SHELTER FOR STOCK.

The actual experiences of the past few months has fully confirmed all we have been writing about, advising and warning for several years past, and that is the necessity for having shelter for stock and more especially small stock and poultry, and the consequences of not having such shelters. What are the consequences? Through the heavy weather in August and September, the entire loss in some cases of pigs, goats, poultry and donkeys—these animals especially—and where deaths have not occurred, loss of condition.

With poultry the consequences are always obvious and serious. We have so often written that while fowls prefer to roost on trees and this is healthy where a few simple precautions are taken *re* cleanliness; still it does not pay in the long run not to have a shelter—a simple fowl house, nothing elaborate—where the fowls should be compelled, if necessary, to roost. Fancy the battering fowls roosting on trees must have got in the continuous rain storms of August and September. What we foretold has exactly occurred. Pullets that were almost ready to lay, hens that were through the moult and looking to lay were thrown back months; and eggs have been scarcer and dearer from September to December than usual at this period, albeit there is always a shortage at this particular time of the year.

Then again pigs and goats tethered out or pigs only kept in pens without any shelter, such as a covering on one corner would give died by the scores.

Surely it is more economical to have a paddock with a shed where all the beasts of a small settler could be brought in when a storm was on than to have the poor beasts standing, exposed to the wind and lashing rain, shivering and shrinking, not able to get a bite for several days and nights. Some sort of feeding could always be found for beasts standing in a paddock under a shed, to tide them over. And then besides the better condition of the beasts, a pile of manure is available where they have been standing, again worth some money in value. But the great thing is the value of shelter for beasts from continuous stormy weather when it occurs.

COFFEE.

(Report on Diseased Coffee Root from Mile Gully Distirct, made to the Director of Agriculture.)

The sample was forwarded by Agricultural Instructor Powell on the 5th. from the cultivation of Mr. Matthew Carnegie. The specimen was from a young tree about 4 years old; the attack is confined to one part of the cultivation where coffee plants were killed some months ago and are still being lost. These plants are near the decaying roots of a large tree cut down some years ago. Black flat strands of a fungus were speeading over the bark while just beneath the latter was a dense black layer from which black rhizomerphs with a white centre had penetrated the living bark and the weed. No fruiting bodies of the fungus were present. It is identical with a fungus found in coffee roots from the Borobridge district (report 20 March, 1914) and resembles a species of Rosellinea causing a black root disease of coffee citrus, etc., in Dominica. The attack usually passes over grom the roots of diseased wild trees and may have spread to the coffee from the roots of the large trees mentioned by Mr. Powell.

Treatment.—As the disease will spread from diseased roots to those of adjoining coffee trees it will be necessary to isolate the affected patch by means of a trench 18 inches deep throwing the soil inwards; dry brushwood should be put into the trench and fired. Dig out and burn the diseased trees, dig up the soil round them to expose diseased roots to the air and light and treat the soil with recently burnt lime. The decaying roots of the large tree stump should be got out and destroyed. After a few weeks plant some other crop (not coffee, cocoa nor citrus).

(Sgd.) S. F. ASHBY,
Microbiologist.

:o:

BANANA FIGS.

We are one of those who obstinately believe that Banana Figs are a good commercial product for Jamaica. We have reason for our faith. No part of the world grows bananas more systematically than we do in Jamaica, the trade is organised and bar storms, good fruit is available and can be arranged for in suitable districts; most of our fruit has a fine flavour, which Central America fruit does not possess. We have mastered the art of making figs that look well, eat well, and keep well. Early objections were that dried or evaporated bananas only tasted well—certainly did not look attractive or appetising, and fermented readily.

Before the war a fair trade was being done with Germany and connections were being made elsewhere. The trouble has not been markets; but that we could not supply large enough orders quickly enough. Now the storm of August has cut off supplies of fruit until about next April, that is the failing of a small country—trade is easily disorganised.

In order to make our banana figs better known we conceived the idea of sending a ton as a War Gift to our sailors and soldiers. Mr. J. F. Thompson of Good Hope to whom we mentioned this idea, casually, at once urged that the idea should be carried out and gave us a cheque for £20 to do it.

Mr. J. W. Pattinson, who has a banana fig factory at Gayle and one at Cave Valley supplied the figs under market value, and we had them packed here in this office in nice carton boxes, labelled in our standard colour—green—each carton box holding nearly 1 lb., and then wrapped in a thin tissue paper which protected the box but which could be read through. His Excellency the Governor interested himself in this matter and wrote the War Office and Admiralty to ensure that the figs would receive a fair trial. Here are some acknowledgments we have received through the Secretary of the West India Committee:—

Mr. G. H. Mayhew, of the Honourable Artillery Company, wrote from "somewhere in France:"—"I am pleased to inform you that the banana figs that the Jamaica Agricultural Society so kindly sent us were in excellent condition, and were very much liked by the men of the battalion. I am instructed by the Officer Commanding to tender you our grateful thanks."

Mr. P. Webber, wrote:—"Banana figs are very much appreciated by the men of the London Irish Rifles, and I beg to tender thanks for same on their behalf."

Lieut.-Col. P. C. Carr, of the 11th Battalion, Royal Fusiliers, wrote:—"I am pleased to be afforded an opportunity of acknowledging with thanks the receipt of banana figs for the men of my battalion so kindly forwarded from Jamaica. These were highly appreciated, as was also the patriotic spirit prompting the gift."

Rear-Admiral Francis Miller, of H.M.S. *Cyclops*, said:—"*May I say how very much the gift of banana figs from Jamaica has been appreciated by the officers and men? They desire to express their thanks to the donors for the most acceptable form of present, and for the kind thoughts which prompted its despatch. The fruit arrived in excellent condition.*"

CITRUS CANKER IN PLANTS.

The growers of Oranges and Grape Fruit in Florida are now fighting the worst trouble they have ever had in their groves, and this is Citrus Canker. This trouble came from Japan and when it first appeared it could have been stamped out for a few pounds, but it was not. Some growers said that it was not of any account, and that those who were alarming themselves over its spread were too fussy. To-day it is present in every grove in Florida, not to be eradicated, and is costing the State from £20,000 to £100,000 every year, according to the season and the severity of the plague.

We read in an Agricultural paper that Citrus Canker is considered to be a very subtle and terrible plant disease. It was first noticed in Florida 2 years ago, and it was then thought to be a new form of Citrus Scab. Research at the Florida Experiment Station soon showed that it was a disease of the greatest malignity attacking the leaves, fruit and wood of all Citrus trees and a very brief experience of it showed that it could be met only by heroic methods. Of a fungus nature, it apparently came from Japan with some imported Citrus stock.

At first growers were advised to combat the canker by spraying with Bordeaux, and to cut out and burn infected parts of trees. Then it was discovered that citrus-canker spores actually grew in Bordeaux mixture, and that the most careful methods of dealing with plant troubles known up to that time did more to spread the pest than to check it, so radical new tactics had to be adopted. Now a Florida citrus-canker crew ready for a day's labor looks, in size and equipment, somewhat like a European artillery command. And its work is almost as spectacular.

The pest first appeared in certain nurseries in Southern Florida. Every one of those nurseries has been put under strict quarantine, so no citrus stock can leave it, and every shipment of citrus trees made to groves in Florida for several years back is being followed up by inspectors as detectives follow a gang of criminals. Practically all the infectious found throughout the state have been traced directly to such nursery shipments, and, though still in stages that permit stamping out, the disease is already so widely sown that it must affect every Florida citrus section if unchecked.

Canker inspectors go over suspected groves looking for the pest. They wear white linen suits which are sterilized in bichloride of mercury after each day's work is done, and they also dip their hands in a sterilizing solution after handling infected trees. Virtually every leaf on every tree in a suspected grove is examined for the telltale canker spots, though the inspectors avoid touching the trees as much as possible. Every infected tree is marked and guarded, nobody being permitted to go near it, and when the inspectors have finished they take off their suits, sterilize their hands, and leave the grove.

Then the burning crew enters. Every infected tree is sprayed with oil, set on fire, and burned completely as it stands. No attempt is made to treat it, because no remedy for citrus canker has yet been found. Absolute destruction of the infected tree without any sort of handling by the workers is the sole remedy.

Under the present Florida laws the canker crews have authority to quarantine diseased nurseries, but none whatever to enter private groves and destroy trees. Here comes in a remarkable phase of the fight: Owners are not only permitting the destruction of their trees, but are furnishing the money to carry on the work.

At this writing, nearly 1,000,000 trees ins suspected sections have been examined, leaf by leaf. One hundred thousand young nursery trees and a smaller number of bearing trees habe been burned. Chiefly the small trees are now infected, and it is believed that the pest will be exterminated in these. When a grove is found free of the pest it is passed without further inspection, but if it is in a district where there are diseased trees regular weekly inspections follow until the canker disappears.

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Many of the pests that are being imported nowadays can be handled with the same success that is being attained in the citrus-canker fight. A very good illustration is found in California's white-fly experience. This citrus pest was carried to the Pacific Coast on nursery stock from Florida in 1907, and appeared in three sections. Inspectors were sent to stamp it out by stripping every leaf from every citrus tree in those sections, as well as to defoliate numerous native trees that act as hosts for white fly. In a little more than one year the pest was obliterated, and it has never gained foothold there since.

But back of the science and the field work must be a backing of public opinion, based upon education. It might seem that growers would easily consent to having their trees stripped of leaves, in comprison with the drastic measure of burning them, as is now being done in Florida. Yet that California campaign was caried on in the face of considerable opposition.

This shows clearly that public opinion, formed by education and good management, must be brought over to the right side in such a battle.

Yet there are people who object to the comparatively simple restrictions and requirements of the Protection from Diseases of Plants Law here, which is only a little stringent as regards Panama Disease of Bananas, and child's play compared with what is necessary in Florida regarding Citrus Canker.

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Small orange and grapefruit are of no value. The size can be increased by manuring and relieving the trees of some of the young fruit. If a 6d. to 1/ worth of labour on a tree will ensure saleable fruit it is worth manuring trees and thinning the young fruit.

The manuring should be done whenever the crop is off, or in cases where the old crop is allowed to remain long on the trees, in the hope of a market occurring in February and March, the manuring should be done not later than January, better in December.

COURSE OF LECTURES.

A special course of lectures and demonstrations on agricultural subjects has been arranged between the Agricultural Society and the Department of Agriculture, primarily for the benefit of the Agricultural Instructors, but the Course will be open to the public, and pen-keepers and planters are cordially invited to attend. These lectures will be given at the Farm School, Hope, from January 17 to 23 inclusive.

SYLLABUS.

Monday, 17th January.—

8 to 10 a.m.—The manuring of crops in Jamaica. Hon. H. H. Cousins, M.A., F.C.S.

2 to 4 p.m.—Cocoa. Wm. Cradwick, Esq.

Tuesday, 18th January.—

8 to 10 a.m.—Cocoa diseases. S. F. Ashby, Esq., B.Sc.

2 to 4 p.m.—Coffee. E. Arnett, Esq.

Wednesday, 19th January.—

8 to 10 a.m.—Coconut Diseases. S. F. Ashby, Esq., B.Sc.

2 to 4 p.m.—Cocoanuts. L. A. Wates, Esq.

Thursday, 20th January.—

8 to 10 a.m.—Lecture: Tuberculosis in domestic animals and birds and its relation to the diseases in man. Demonstration: Shoeing of the horse. (a) The preparation of the foot. (b) The adjustment of the shoe. G. O. Rushie Gray, Esq., B.Sc., M.R.C.V.S.

2 to 4 p.m.—No lecture.

(Half Yearly General Meeting of the Agricultural Society 11.40 to 2. Instructors campare 4 to 6.)

Friday, 21st January.—

8 to 10 a.m.—Entomology in Jamaica. A. H. Ritchie, Esq.

2 to 4 p.m.—Sugar—cultivation and manufacture among small settlers. T. Powell, Esq.

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SEASONABLE HINTS.

VEGETABLES.—For vegetable growing the soil can hardly be too rich, and especially is this the case for Cabbages. The largest Cabbages we have seen here have been grown round old cane trash heaps. It is a mistake, however, to add fresh horse manure to a garden, as while vegetables are greedy feeders, they are not coarse feeders—except Cabbages. The land intended for a vegetable garden should be manured well ahead and turned over in the rough. We write this again because so many have written us that they have been simply overwhelmed with pests of one kind or another, and we do not know of anything that will bring more pests around, than the use of fresh horse manure. Yet it is a most common practice in spite of all that is written, to start the garden all in one week, by laying a lot of coarse horse bedding mixed with manure through the garden, digging it in, planting the vegetable seeds, immediately, and applying a top dressing of the same stuff. It is almost an impossibliity to expect vegetables to grow with cultivation like this. Ordinary horse manure we do not consider a good dressing for garden vegetables at all, unless it is very old and rotted. Cow manure is much better; goat and sheep manure are suitable if well mixed with the earth; fowl manure is too strong unless it is mixed with at least 20 parts of soil, first, or applied sparingly to the garden direct, and well mixed in. Old rotted cane trash is quite suitable dug in a month ahead.

The best soil for the garden is one that was heavily mulched last year; for another crop preferably peas or beans; this year the mulch has been incorporated with the soil as manure and is in a very fine state. This does note encourage pests. It is no use using coarse strawy manure for a vegetable garden as this keeps the soil too open. It is absolutely necessary to have the soil of the garden in a *fine* state first, and then *firmed*, so that it may *not* be loose or open.

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There are many pests to garden vegetables and they cannot all be dealt with alike. Practically every day we receive letters and callers on the subject of some pest eating down garden vegetables just after they had started growth. Now there are two different kinds of common pests. One pest cuts through the stems of certain young vegetables, Tomatoes and Cabbages for instance—about an inch above the soil—almost a clean cut. This is the cut worm and it cannot be killed by dusting on to the vegetable a powder such as we supply, but which will kill the second batch of pests such as caterpillars, slugs and snails which eat the leaves.. These last can be killed by dusting Slug Shot on the plants. *Cut worms*, however, are of a different nature; they are little grey caterpillars which lurk in heaps of trash or in the earth at the roots of the vegetables and come out at night. The nature of the damage they do is unmistakable. They can be killed by making a bait of one part of Paris Green (which must be used with caution as it is chiefly composed of arsenic) and 50 parts of bran, middlings, cornmeal, or cheap flour; mix this into balls with some wet sugar, and place about the field between the plants; the cut worms will find the hait and get poisoned. Paris Green can also be used to dust over the liants so long as it is mixed with at least 20 to 40 parts its weight of fine white lime. Some vegetables are more tender than others and require the Paris Green to have a larger admixture of whitelime. This mixture comes cheaper than Slug Shot, but of course a good many prefer to get a ready-made mixture rather than having the trouble of getting the white lime and mixing a certain proportion with the Paris Green. Slug Shot and the Paris Green-whitelime mixture should be dusted thinly on the plants in the evening, and this should be done once a week. Baits for cut worms should be laid once a week or whenever they are seen to be at work. Constant watchfulness and care are necessary.. (See page 430 November Journal for more exact instructions.)

We find Vaporite (6d. all) dusted round the plants in the earth useful against cut worms, ants and any pests which lurk *in* the soil.

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CORN CROP.—In most years since 1906, the growing of good corn crops generally throughout the Island has been frustrated through severe drought happening in some of the best corn growing districts. The first time since the year mentioned that we have had real good crops all over, was last season, but even then part of the crop was spoiled through the August wind and rain storm. Since August we have had nothing but rain, rain, and so heavy and continuous that the corn planted in August and September has been to a large extent badly damaged. We do not therefore expect anything like a good crop of corn from January to March. A good deal of late planting has taken place right up to the end of October, but that won't help much to make up supplies. We advise that wherever a district is suitable for the January planting, corn should be planted then and also in February. The time to prepare for the plantings in January and February is now. On the heavier soils forking should be done two months ahead of planting, and even on the red soils this would do good also.

CORN.—From experiments carefully noted the weak stalks in a corn field produce less than half the vigorous stalks. It is usual now, owing to pests reducing the stand of young plants, to plant vve grains instead of three in a hole, as replanting is hardly ever a success, because when some plants have got the start, those planted later in the same or near holes seldom grow well. But when it happens that four or five stalks grow, and have got a good start it will pay to go through the field and chop out the weaker stalks, even if only one or two are left. Where it happens on exceptionally good soil and under unusually good corn growing conditions, that there are three or four vigorous stalks, let them stand. But if no weak stalks are ever allowed to grow and produce cobs,, and then the best of these are selected for seed, this in a few seasons would help to produce a more vigorous breed of corn.

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STOCK NOTES.

DEATH OF MULE.—"We received the following letter from the Secretary of a Braach Society." A member had a cart mule, *not kept in stable. Little corn fed.* It took sick on a Monday and died Saturday. When it took sick she walked as if she had been strained, keeping the neck stiff and straight to the front, and ears erect.

Treatment:—Camphorated Spirit of Wine, one grain Oil of Rignum and Turpentine mixed together were used as ointment for the whole body. The body was also patted with hot water.

First Drench:—Oil of Juniper, Glanber Salt and a pint Strong Ale. *No improvement, then*

Second Drench:—Radway's R. Relief and Water. She then died.

Please say what might have been the trouble and treatment you deem fit in such cases. *When she died all the ointment was seen to be just oozing out the body.*"

We referred this to the Government Veterinary Consultant who replied:—

"It is impossible to come to any conclusion as to the existence of any particular disease on such a description of symptoms. It is possible that the mule was suffering from Tetanus (Lock-Jaw), but correspondent fails to state how the animal fed, etc. If this was the disease all the symptoms described would have been present.

Treatment.—In cases of Tetanus vaccinate with Antitetanic serum. Laxative food, e.g., bran mashes, and keep the animals in quietude. If the disease is due to a wound, expose this to its depth and cauterize."

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It will be seen from the letter that while there is a full description of the treatment administered, there is a very scant description of symptoms. The treatment given seems to us very heroic and we are not surprised that after Drench No. 2, the beast died. We think a repetition of an article that appeared in this JOURNAL some years ago on Drenching is required, but we have found an article written perhaps in a more impressive way.

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DANGERS OF DRENCHING.—We have already had an article on the danger of drenching by the ordinary methods in use (JOURNAL for September, 1911). The average man does not understand the physiology of an animal, but he can find out whether what we write is true by trying to drink himself in the same way—by holding the nose and jaw and the head back. But no, the human takes his doses of medicine in the form of pills, powders or spoonfuls of liquid.

The following is from an old copy of the South Australian Agricultural Journal:—

"Yet in the year of grace, 1914, no sooner does the horse get the gripes than someone is sent galloping off for a drench, and probably for a drenching bit, for that will ensure the drench going down; yes, but where? Probably into the lungs. Why? Because the horse's nose is above his mouth and his windpipe below his gullet, and when he drinks his head is down, and his windpipe is protected by a trapdoor (the epiglottis), so that the liquid glides over it into the gullet down into the stomach. But when the patient sufferer falls into the hands of administering angels with a drench, up goes his head, the muscles of his throat are stretched so that the trapdoor is forced open, and being shaped liked a lid of a jug, involuntarily catches the drench and tips it down the windpipe. And still the nose is used as a funnel, despite the fact that it is arranged to allow air, not liquid, to get into the windpipe; and if liquid is substituted for air it too, has to go the wrong way after intensely irritating a very delicate organ; and when a horse coughs he is bound to take the drench down his windpipe. Now-a-days the active principles of all useful drugs can be obtained in concentrated form, and, mixed with molasses or pollard, can be put on the tongue or teeth, or tastelessly mixed with the food or drink, or inhaled in vapour form without harm. "Killed by drenching" will then not be the primary cause of many deaths of stock, even though the owner does not understand why his beast died after having so much good medicine."

SOAKED CORN.—We have before written of the benefit to horses and mules of a change of diet. Hard corn every day becomes tiresome to a beast and food eaten because of hunger, never does so much good as a food that is relished. Now in this country it is difficult to ring the changes in food. Corn is the commonly available food. Oats and wheat bran are mostly far too expensive, as we do not grow oats or wheat. We found that if a salt pork or beef barrel was got from a shop, and the corn soaked in it, for not less than 24 hours, the beasts enjoyed this soaked corn with the salty flavour, and improved. This makes a nice change although the diet is still corn. Later we found that rice bran from Westmoreland was ever so much cheaper than wheat bran and nearly as nutritious, and could be given mixed with corn, saving half the corn and making the beasts masticate the corn better. Still later we found that a small proportion of coconut meal added to the ration of travelling ponies, was eagerly taken and served to imrprove the beasts. The only drawback to the coconut meal is that at present, it requires to be imported, although it comes cheaper than Linseed Meal and Cotton seed meal, while indirectly its use helps the coconut industry. But it should be made here!

Suppose a horse gets a a daily ration 4 quarts of hard corn. Give as a change 2 quarts soaked corn, 2 quarts rice bran and 1 pint Coconut Meal. The horse is better fed at slightly less cost.

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TANNING HIDES.—Making leather is a task for experienced tanners and such persons should do the work to obtain the best results. An old recipe is as follows: Mix quicklime with water, allow it to settle and pour off the clear liquid. Soak the skins in this lime water for about 10 days, or until the hair can be easily removed;

then soak and wash until all the lime is taken out. Mix 4 oz. alum and 8 oz. salt in 4 gal. water, and soak the skins for two or three days in this liquid. Take them out and hang up to drain. When half dry, rub and work the leather till it becomes dry.

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LAMPAS IN HORSES.—This trouble occurs for the greater part in young horses while cutting their teeth, and sometimes when beasts are shifted from a soft bite, i.e., green succulent grass, to hard tough wire grass. During this period swelling of the ridges of the palate above and behind the incisor teeth is quite common. There are slight febrile symptoms, especially when the bridle teeth or tushes begin to show themselves in males; the parts become very large, which prevents the animal from eating his food.

No severe measures are necessary such as burning or tearing the palate. Simply rub with salt, or apply a wash of alum water. Give the animal soft food such as soaked corn, instead of hard corn; and where rice bran is available this can also be fed with the soaked corn. Also give cut grass and Spanish Needle instead of hard grazing.

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POULTRY NOTES.

CAPONIZING.—The system of caponizing ought to be more generally practiced. If for no other cause the cockerels caponized grow to a much larger size than those not so treated, and the meat is much improved; not only so but male birds which could not be kept together without danger of constant conflict will live in peace and amity. These reasons ought to warrant the adoption of caponizing. The pain suffered by a bird is infinitesimal as compared with the result of single fight, and the benefit altogether out-weighs any objection on this score. Capons thrive better and lay on flesh more rapidly being not so restless in temperament. On the grounds of increased profit I would strongly recommend that all male birds intended for table should be capanized and thus the cockerels will realize more for the breeder than they otherwise would. The operation gives but momentary pain when rightly performed.

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HOW TO CAPONIZE.—The best birds to operate upon are chickens which have not yet started to crow, and when about 3 to 4 months old is the right age. They must be kept without food for 24 hours or more before being operated upon so as to get the intestines empty and keep them from resting on the testicles.. A good light (bright sunshine) should be chosen to operate in and the full light allowed to shine in the chicken's side when opened. Lay the bird on its side on the bottom of a barrel or table, tie the bird's legs and wings or get someone to assist by holding the bird. Pluck off the small feathers from the hip bone to the first rib (counting from the hip bone) then wet with cold water, this will serve to keep the feathers out the operator's way, and it is also claimed that cold water will numb the sensations of the fowl so that it does not appear to feel the operator's knife. Stick the knife between the first and second rib from the hip bone and cut downwards to the end of the rib. If need be turn the knife and cut nearly up to the backbone. Now put in the spreaders, (one of the instruments used for separating the ribs), split the lining that covers the bowels, the upper testicle will then be exposed and should be grasped with the grippers and given a turn so as to separate it from its attachment, then pull the testicle out. Turn the bird on the other side and go over the same process to remove the other testicle. With experience both testicles can be removed from one side, but it is necessary to be careful not to rupture the large vein under the testicles, and also to get out the whole of the latter as they will grow back if any portion is left.

The birds may be allowed to be free without the incision being sown up, but for a few days they should not be allowed to fly up to roost. Birds may in this way be caponized without loss of more than two and a half to three per cent. Large breeds such as, Wyandottes, Plymouth, Orpingtons and Indian Game, when caponized young and well fed until 8 to 10 months old will weigh 10 to 15 lbs. each, and the meat will be found to be of the tenderest and most succulent description.

The chief dangers found in practice with the system of caponizing is the tearing of the veins near the testicles which result in the bird bleeding to death, and the losing of the testicles among the intestines after separation, the latter may cause inflammation and death. These seldom happen except through want of care or inexperience. It is best for the novice to make his first experiment on a dead chicken so as to learn exactly the position and place to cut and the removing of the testicles. For the operation firmness and confidence are necessary and can be best obtained by actual experience.

M. RENNIE.

Falmouth.

EGG LAYING COMPETITIONS.—We have followed nearly all the Egg Laying Competitions which have been held throughout the world. These were first commenced in England as summer competition, but as eggs laid in winter are more valuable than those laid in summer, the first all year competitions were held in Australia where some remarkable results in laying were obtained. A few years ago these competitions were also started in the United States, where the success of English breeders proved an eye opener to poultry breeders there. A winner in many competitions was Mr. Tom Barron who has a poultry farm in the north of Lancashire, England, and now his strain of White Leghorns and White Wyandottes are advertised in all poultry papers in the United States. In spite of selling many hundreds of his strain of fowls and probably thousands of eggs for hatching, he has again won this year's Egg Laying Competition at Storrs Agricultural College, Connecticut, with a pen of White Wyandottes; these birds laid 2,072 eggs; his White Leghorns were third with 2,001 eggs; a pen of Rhode Island Reds belonging to Hiliview Poultry Farm being second with 2,039 eggs. In the whole competition, White Wyandottes produced most eggs, averaing 165 eggs per bird; White Leghorns were second with an average of 155.8 eggs, Plymouth Rocks averaging 146.3 eggs and all other breeds 125.8. The general average for all the competing birds was 175.8.

The difference in ability of hens to lay is well illustrated by the contrast between the poorest pen which laid only 569 eggs and the best pen which laid 2,072 eggs.

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It is generally accepted that pullets do not make as good stock birds as hens, in their second, third, or even fourth year; and we have usually worked along these lines. Whether this gives better birds than those hatched from eggs laid by pullets, i.e., birds laying their first season, we have never absolutely proved. but there is, at any rate one great advantage in not using pullets, and that is, in the second year we can always have the selection of the best as stock birds, i.e. proved birds. One is therefore not setting or selling eggs at random.

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Owing to the high price of oats all during this year, we did not use them for feeding stock birds, and we have not one bird this year to compare with the birds we had as stock last year; this year's birds have not the size nor bone. The hens laid quite as well without oats, but the chickens reared without that grain are not of the same class, and the few pullets we must keep as stock birds for next year are not of the same class—to look at as the hens of this year. They will probably lay quite as well but we also like to keep up size. The principal feeding had to be corn all during the year.

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FEEDING CORN.—Where corn and little else has to be fed it should always be cracked in a mill first; in this way it goes further and is easier to digest, and where young chickens are kept running among older fowls they can pick this, while whole corn kills many of indigestion.

It is good also to vary one feed a day where no other soft sood is fed, with soaked corn (See Stock Notes.)

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COMMENTS.

HALF YEARLY GENERAL MEETING.—This Meeting will be held as usual on the third Thursday of January, the 20th of that month. All Branch Societies can send one delegate whose name should be sent to the Secretary at least two weeks ahead so that the Certificate authorizing him to travel the double journey by rail for single fare may be sent in time. All matters for the Agenda should be sent in two weeks ahead also.

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COCOA DRYERS.—We beg to call attention to the advertisement in this JOURNAL of economical cocoa dryers made by Messrs. Wm. McKinnon & Co., Ltd., Spring Garden Iron Works, Aberdeen, Scotland. The agent for these dryers is Mr. Eric G. Anderson, Engineer Hayes P.O. (Vere).

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LIMES.—The article on Limes published in November JOURNAL will be continued in a later issue.

CORN MILLS.—The corn mill that we supply for £5 we find grinds corn and cob together pretty well, and we find that beasts like this mixture as soon as they get accustomed to it. It is certainly a great saving not only in the feeding value but in the shelling of the corn. Larger and more powerful mills, however, are required to do this on a larger scale. We sound a note of warning, however, regarding this make of mill. It is meant for a house mill to grind say up to a bushel of corn into cornmeal at a time, but not to be kept grinding all day as the effort would be too much for hand power. We have, however, the same mill fitted with a fly wheel so that it can be used with steam power if necessary.

* * * * *

The percentage of cob to grain in a corn cob is about 18%. We took 4 cobs recently and tested them. The seed corn from the centre of the cob weighed 27 ozs., the grains from the tips and the butt weighed 6 ozs., and the cores weighed 6 ozs. These were good cobs.

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FOOD CROPS.—Keep up the planting of plenty of crops for food. This is the more necessary now that the supply of bananas is cut off to a large extent, and this fruit will not be available abundantly until next June.

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IRISH POTATOES.—This is a quick crop and should be largely planted in January, February and March. It is no use planting however, unless the soil is very rich with manure and is also in a very fine state of tillage.

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HOOK WORM.—With reference to our paragraph in October JOURNAL that a strong infusion of Tansy had been found to be useful in eradicating Hook Worm, a medical man writes that a decoction of Bitterwood is better, but the plant called locally Wormweed (*chenopodium ambrosioides*)promises to be the best remedy of all; better even than Thymol. It would be most useful to have a common native remedy. Wormweed is commonly known and used for ordinary intestinal worms.

———:o:———

PEAS AND BEANS.—Have been very scarce since the storm weather of August and September. Cowpeas and Black Eye Peas could hardly be got for seed to plant, and Red Beans allso were wanted for planting far in excess of supply. We do not expect these crops to be very plentiful until next August.

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SEASONS AND CROPS.—While wind and rain caused loss in August and September and flood rains again in some parts during November, on the whole the seasons have been such that crops look well for next year. Bumper crops of sugar are assured; bananas are coming along so fast that some of those who figured they would not have any until April to June will have some from February on. Some places have continued supplies for shipping all along, St. Catherine and St. Thomas especially.

Cocoa trees got badly whipped in the storm but have made wonderful recoveries, and next year's results should at least be fair; and the price keeps up.

Coffee has not borne a large crop generally, though heavy in particular spots, but the trees are in fine condition for a large crop next year. The price, too, is better than was expected, and has inspired hope in small growers.

Ginger is a contrary crop; it promised exceedingly well, better than for years, but since the rain storms of August and September, the crop will only turn out *heavy* in a few favoured spots that escaped the numerous landslides, washes and floods. The price is pretty good, and with not the best prospects for a good crop, may improve.

Annotto is bearing well and the price is good. Those who have it should stick to it,—not the crop but their trees.

Logwood made a sudden jump up. The Imperial Government want 6,000 tons and until they are served—at least that is how we take it—have prohibited export, except to the United Kingdom.

———:o:———

MOSQUITOES.—In districts where mosquitoes are plentiful, their numbers can be largely reduced by every one taking precautions not to have any still or stagnant water uncovered or if that is not possible as in the case of a pond or tank, take care to have some of the little fish called Ticky-tickics or Bungas in the pond or tank. One old condensed milk, salmon or jam tin flung out, lying mouth up and catching a half pint of water can breed enough mosquitoes to annoy a whole household. Yet we see such things lying in the back yards of intelligent householders. No empty tins, broken bottles, old buckets or anything that can hold water should be left about as rubbish.

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RATS.—Keep up effort to keep these pests down; they are hard to get entirely rid of permanently. Many times we have cleared out rats from houses and yards until for two or three weeks we never heard or saw trace of them. Then they appeared again; probably a house-keeping couple or several, came along from neighbours, looking for a place to settle; found plenty of room and plenty to eat and settled. Soon young rats would be about and we had to continue effort again. The worst possible fellow ever to clear out is an old buck rat who has lost supremacy in his usual haunts and settles elsewhere with a young doe. He defies cats, dogs, traps and poisons.

* * * * *

THE VALUE OF OWLS.—It is difficult enough to keep rats down in the house, but in the field it is still more difficult unless one's neighbours are also making the same effort. In rat destruction, co-operation is absolutely necessary and that is why our Branch Societies should keep at the subject.

We hope at our Half Yearly General Meeting in January to show the small locally made traps, bamboo or withe traps, cheap to make and which are used very effectively in a few districts yet which are apparently entirely unknown in most places.

We again want to bring it home to our readers that the best of all rat destroyers is the Owl, and instead of boys and others being allowed to scare this valuable bird away when it appears round the dwelling, it should be looked upon as a precious assistant and encouraged. One pair of owls when they have 5 or 6 young ones in the nest will kill more rats and mice than a dozen hungry cats would in a night

There would be less destruction by field mice to the corn planted, if a pair of owls was hunting up and down the rows, their wings noiseless, their eyes keen, their pounce certain, their appetites unlimited.

Take care of, and encourage Owls.

———:o:———

EXPORTS—The year for export closes at 31st December. At the beginning of that month our results for the 11 months are not at all discouraging: on the contrary quantities and values are with the exception of fruit very good indeed. Only our chief exports bananas shows up poor. Now if we can only get shipping and our fine seasons continue—the prognostication of weather experts is that we are in for a cycle of rainy years—we shall get through next year very well. So far we have not been too badly off for shipping; a great deal better than some other parts of the Empire.

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WAR GIFTS.

The following are a few more of the acknowledgments we received per the Secretary of the West India Committee, London.

It will be noticed that some of the hospitals contain 1,000 and more wounded men. Let us continue our efforts to supply them with fruit. Nothing is more welcome to the sick and wounded than our Oranges and Grapefruit.

Naval Store Office, Aberdeen, N.B.—

On behalf of the Vegetable Products Committee, I beg to thank you very much for your generous gift of grapefruit for the Grand Fleet. The boxes arrived some days ago, add will be shipped to-morrow, the slight delay being caused by unavoidable circumstances.

I trust that they will reach the Grand Fleet in good condition, and be appreciated by the sailors.

Vegetables and fruit are continually sent to us from all parts of the Kingdom and the Empire, with extraordinary generosity; but I think that no gifts are of finer quality or more welcome than those which come from Jamaica.

From the Commanding Officer, His Majesty's Ship Dreadnought, c/o G.P.O., London.— Dated 6th October, 1915.—

The gift of grapefruit which you have been kind enough to send for the men of the Grand Fleet, has been received in this Ship.

It has been distributed among the men and greatly appreciated by them.

On their behalf, permit me to thank you.

Third Scottish General Hospital, R.A.M.C. (T.), Stobhill, Glasgow, 23rd Sept., 1915.—

I have pleasure in acknowledging receipt of one box of oranges and one box of grapefruit gifted by the Jamaica Agriuultural Society, reference Number 122.

In reply to your query, the accommodation of the 3rd Scottish General Hospital is one thousand patients.

Administrator Southern General Hospital.— 21st September, 1915.—

Thank you very much for the box of grapefruit and box of oranges which have been received for the wounded soldiers in this Hospital from the Jamaica Agricultural Society.

The fruit arrived in good condition except for half the box of oranges.

Our Hospital accommodates 3,300 patients.

First Western General Hospital, 7th October, 1915.—

Your circular letter Ref. 54, advising the despatch of one box oranges and one box grapefruit duly received, also the fruit.

Will you please convey to the Jamaica Agricultural Society the appreciation of the sick and wounded in this Hospital.

The Hospital accommodates 500 patients.

Seamen's Hospital, Greenwich, 11th October, 1915.—

We have received two cases of oranges from you on behalf of the Jamaica Agricultural Society. We have a large number of wounded Naval Ratings in our wards now, men from the Dardanelles. No less than 60 cases of Dysentery and some of Typhoid also. Your gift is much appreciated. Very many thanks to the Jamaica Agricultural Society and to you.

The Royal Infirmary, Sunderland, September 29th, 1915.—

I have the pleasure to inform you that the box of grapefruit which has been sent as a present from the Jamaica Agricultural Society for the sick and wounded soldiers and sailors in this Infirmary was received yesterday, on the same day that a convoy of 100 wounded arrived from the great battle on Saturday and Sunday last.

Will you please accept and convey to the donors and your Committee our grateful acknowledgements for their acceptable gift.

In reply to your enquiry we are giving accommodation for 164 sick and wounded soldiers and sailors, and I can assure you that our brave fellows will be delighted to have any further gifts of fruit which you may be pleased to send them.

Seamen's Hospital, Greenwich, 1st September, 1915.—

Your further kind gift of a Cask of Lime Juice (30 gallons) has come to hand and I hasten to convey to you an expression of warm thanks which I trust you will pass on to the Jamaica Agricultural Society. Please assure the Society how very much their gift will be appreciated by the sick and wounded here. We have accommodation for 300 patients in normal times but another 100 can be taken in by putting up extra beds. We are now expecting a third convoy of wounded Naval Ratings from the Dardanelles and therefore you will understand how valuable the present from the West Indies is to us. We thank you very much.

First London General Hospital, St. Gabriel's College, Camberwell, S.E., August 17, 1915.

I am requested by the Officer-in-charge to thank you most heartily for the kind gift of fruit sent to us through you by the Jamaica Agricultural Society, and trust you will convey to them the thanks of the patients of this Hospital who greatly appreciate the fruit, and the kind spirit in which it is given.

This Hospital now contains 1,000 beds.

The Prince of Wales' General Hospital, Tottenham, N., August 25th, 1915.—

I beg to acknowledge the receipt of 2 boxes of oranges, and 1 box of grapefruit, also the cask of 28 gallons of honey which has now come to hand. I should be glad if you will kindly convey to all the members of the Jamaica Agricultural Society, our most heartfelt thanks for these very much valued presents. The men themselves appreciate the fact that their needs are so kindly thought of by their fellow country-men in the distant parts of the Empire.

University College Hospital, London W.C., August 14th, 1915.—

I beg to acknowledge the receipt of a box of oranges which you have forwarded to this Hospital for the sick and wounded soldiers on behalf of the Jamaica Agricultural Society. Will you please convey to the Society an expression of our most grateful thanks for this kind gift which is much appreciated by the men.

In reply to your enquiry, this Hospital accommodate 225 wounded soldiers.

Fourth London General Hospital, R.A.M.C.T., Denmark Hill, S.E., 14th August, 1915—

I write to thank you very much for the two boxes of oranges. They will be much appreciated by the wounded soldiers and sailors. I trust you will convey to the Jamaica Agricultural Society our thanks for their kind gifts of fruit which are most acceptable. We have about 900 wounded men in this Hospital.

Second Southern General Hospital, Bristol, August 21st., 1915.—

I have to acknowledge with many thanks the receipt of four boxes of oranges for the use of the wounded and sick soldiers in this Hospital.

Please convey my cordial thanks to the Jamaica Agricultural Society for their generous gift which will be greatly appreciated by the men. This Base Hospital when full accommodates 1,040 (one thousand and forty) patients.

Third Western General Hospital, R.A.M.C., Cardiff, 22nd August, 1915.—

I am in receipt of your letter dated August 20th instant, in which you notify me that 2 boxes of grape fruit have been forwarded to this Hospital for distribution among the patients.

Please accept most grateful thanks for your kind gift, and I have no hesitation in assuring you that they will be greatly appreciated by our patients.

This hospital has at present accommodation for 590 patients, and in the course of a few weeks will be able to accommodate over 1,000 patients.

Will you please be good enough to convey grateful thanks to the Jamaica Agricultural Society for the gift mentioned.

Royal Naval Hospital, Plymouth, 15th August, 1915.—

I am desired by the Surgeon-General to acknowledge the receipt of your communication dated 10th instant., Ref. No. 191, and to inform you that the box of oranges sent by the Jamaica Agricultural Society, for the sick and wounded patients in this Establishment, arrived yesterday.

The oranges have been distributed amongst the various wards, and the patients are deeply grateful to the Jamaica Agricultural Society, for the kindness shown.

The accommodation at this Establishment fors sick and wounded patients is 1,000 in number.

No. 2 Eastern General Hospital, Dyke Road, Brighton, 24th August, 1915.—

I beg to thank you for very generous gift of grapefruit from the Jamaica Agricultural Society for the use of the wounded soldiers in this Hospital, and I can assure you these will be very much appreciated by the men.

The number of beds fully equipped for patients in this Hospital is 1,020.

East Suffolk and Ipswich Hospital, 18th August, 1915.—

The receipt of a box of oranges from the Jamaica Agricultural Society to the sick and wounded in this Hospital was reported to my Board at its meeting to-day. I was directed to convey the Board's very best thanks to you and through you to that Society for the gift, which is much appreciated.

Our accommodation has recently been extended and we now have beds for 240 wounded here. Most of the cases we receive are of a very serious nature.

Manchester Royal Infirmary, Manchester, 21st September, 1915.—

I beg to acknowledge with many thanks the receipt of one box of grapefruit for our wounded soldiers, from the Jamaica Agricultural Society.

The fruit will be greatly appreciated by the soldiers, and I shall be glad if you will convey their grateful thanks to the Jamaica Agricultural Society for this kind gift. Presents of this nature are always exceedingly welcome.

This Hospital accommodates 308 wounded soldiers.

Royal Southern Hospital, Liverpool, 25th August, 1915.—

I have to acknowledge, with very best thanks, the receipt in good condition of a box containing 60lbs. of grapefruit marmalade.

Will you please convey my Committee's grateful thanks to the Jamaica Agricultural Society for their thoughtful gift to the sick and wounded soldiers and sailor at this Hospital, which you may be sure will be greatly enjoyed.

WAR GIFTS FROM JAMAICA.

War Gifts Shipped During the Fortnight Ending October 11th, 1915.

A.—Gifts for General Distribution among Hospitals.

Donor.	Address.	Quantity.	Kind.
The St. James' Women's War Committee (per Mrs. D. Mills)	Montego Bay	1 tin (10 lbs.)	Guava Jelly
		1 tin (10 lbs.)	Pine Jam
		1 tin (10 lbs.)	Plum Jelly
		1 tin (10 lbs.)	Grapefruit Marmalade
		2 tins (20 lbs.)	Orange Marmalade
Mrs. A. D. C. Levy	Bog Walk	1 tin (35 lbs.)	Guava Jelly
Mrs. W. W. Wynne,	Mandeville	14 boxes	Oranges
		3 „	Grapefruit
		2 „	Lemons
Hon. J. R. Williams	Bethel Town	8 „	Oranges
		1 „	Grapefruit
Sir John Pringle	Cape Clear Clonmel	20 „	Grapefruit

E. D. Kinkead	Kingston	40 boxes	Oranges
R. E. Lewis	Mandeville	20 ,,	Oranges
F. J. Delapenha	Mandeville	20 ,,	Oranges
J. H. McPhail	Bog Walk	36 ,,	Lemons
Mrs. Cooper	Giddy Hall	1 case Cigarettes (contg. six boxes, value about 15/-)	

B.—Gifts Addressed to Special Military Hospitals, the Belgians, Etc.

Donor & Address.	Gift.	Hospital, Etc.
Miss I. Coleman, Christiana	1 case Clothing (about 60 pieces)	The Hon. Sec. Belgian Relief Funds, 32 Goswell Rd., London, E.C.
Mrs. Cummins, 87 Duke St., Kingston	1 case Clothing (about 60 pieces, also a parcel of Dolls & Doll's Clothes, etc.)	ditto
The St. James' Women's War Committee, per Mrs. D. Mills, Montego Bay	1 case Clothing (about 114 pieces)	ditto
Mrs. Robt. Craig, Chapelton	5 boxes Grape Fruit 4 boxes Oranges 1 bos Limes	The Military Hospital, Galashiels, Scotland.
The People of the Bamboo Tabernacle, St. Ann, (per Mrs. Jas. Johnston, Brown's Town)	*2,000 Cigarettes*	*The Netley Hospital, Netley, Hampshire.*

A. C. L. Martin, Cross Keys 1 bag *Pimento (asked for by Mr. Aspinall for experiment*

This List was omitted from the November Journal.

The following War Gifts have been contributed and despatched during the fortnight ending November 22nd., 1915.

1.—For General Distribution among Hospitals.

A. Preserves.

Donor & Address.	Quantity.	Kind.
*Miss I. Branze, Spaldings	2 tins (20 lbs.)	Guava Jelly
Mrs. A. A. Lewis, Yallahs	3 tins (30 lbs.)	,,
Mrs. & the Misses Soutar, St.. Andrew	1 tin (10 lbs.)	,,
Mrs. A. B. Lowe, Adelphi	1 tin (10 lbs.)	Marmalade

B. Citrus Fruit.

A. A. Green, Mocho	8 boxes	Oranges
	1 ,,	Grapefruit
	1 ,,	Limes
Col. Moulton-Barrett, Moneague	10 ,,	Oranges
Rev. H. B. Wolcott, Richmond	8 ,,	Grapefruit
Hon. Geo. McGrath, Ewarton	25 ,,	Oranges
Mrs. S. Moxsy, Chapelton	12 ,,	Oranges

II. For Special Hospitals, etc.

A. Preserves, Cigarettes, Etc.

Donor & Address.	Gift.	Destination.
Mrs. A. A. Lewis, Yallahs	Guava Jelly (2 tins, 20 lbs)	Folkestone Hospital
Miss Isa Soutar, St. Andrew	Guava Jelly (4 tins, 40 lbs)	French Wounded.
Mrs. & the Misses Soutar, St. Andrew	Guava Jelly (5 tins, 50 lbs)	
St. Michael's Girls' Club, Kingston	Miscellaneous Garments (60 pieces)	Secty. Willesden National Relief Fund Committee, Municipal Offices, Dyne Rd., Kilburn, Ldn., N.W,

Per Mrs. Jas. Johnston, Brown's Town		
The People of the Brown's Town Tabernacle, St. Ann	Cigarettes, (10,000)	The War Office (for distribution to Base Hospitals, Stretcher-bearers, Burial parties, etc.)
Per Mrs. Jas. Johnston, Brown's Town,		
The People of the St. Jean D'Acre Tabernacle, St. Ann	do	The Admiralty (for distribution to Hospital ships).

B. Citrus Fruit.

Mrs. H. E. Crum Ewing, Mandeville	4 boxes Oranges	3rd Genl. Hospital, Stobhill, Glasgow.
Sir John Pringle, Clonmel	15 boxes Oranges 10 boxes Grapefruit	ditto
Robt. Craig, Chapelton	15 boxes Oranges 5 boxes Grapefruit	3rd Genl. Hospital, Stobhill, Glasgow.
Inspector T. Alexander, Mandeville	10 boxes Oranges	ditto
	5 boxes Oranges	Any Hospital for the Wounded Blind.
Hon. J. R. Williams, Bethel Town	15 boxes Oranges 5 boxes Grapefruit	War Hospital, Lansdown Crescent, Bath.
Mrs. W. W. Wynne, Mandeville	2 boxes Oranges	S. General Hospital.
	2 boxes Oranges	S. General Hospital, Town Hall, Oxford.
	2 boxes Oranges	Morant Hospital, Broken hurst, Hants.
	9 boxes Oranges 3 boxes Grapefruit	Hospitals in Brokenhurst and The New Forest.

III. For the Jamaica War Contingent.

A. Preserves, Etc.

Mrs. E. A. Clarke, Half Way Tree.	Guava Jelly (2 tins, 20 lbs.)
Miss K. E. Mercier, Kingston	Guava Jelly (12 tins, 12 lbs.)
The Women's War Committee St. James.	Guava Jelly (2 tins, 22 lbs.) Guava Jam (2 tins, 20 lbs.) Marmalade (1 tin, 10 lbs.)
Mrs. J. H. Levy, Brown's Town	do (8 lbs.) Guava Dolce (5 lbs.) Guava Jelly (6 lbs.)
Mrs. H. E. Fray, Milk River	Cassava Cakes (13 doz., 80 lbs.)

B. Citrus Fruit.

W. H. Coke, Mandeville	10 boxes Oranges 6 boxes Grapefruit. 8 boxes Lemons.
Miss Levy, Mandeville	10 boxes Oranges
S. A. Hendriks, Porus	20 boxes Oranges
F. J. Delapenha, Williamsfield	22 boxes Oranges
C. R. Isaacs, Shooter's Hill	27 boxes Oranges

IV. Walking Sticks.

Donor & Address.	Quantity.	Destination.
George Silly, Chalk Sound, Caicos	1 bundle (about 50 sticks)	For H.M. Military Hospital, Luton, England.

Hon. H. Cork, Port Antonio	1 bundle (20 sticks)	
E. W. Muirhead, Mandeville	8 bundles (790 sticks)*	
Rio Minho Branch, Clarendon	1 bundle (66 sticks)	
Mocho & Brixton Hill Branch, Clarendon.	2 bundles (147 sticks)	
J. K. Hanna, Balaclava	2 bundles (64 sticks)	
A. A. Palmer, Albert Town	2 crates (50 sticks)	Consigned to "Tit-Bits" London.
I. Wilmot Sharp, Duncans	1 crate (89 sticks)	
Per J. H. Scott, Falmouth:		
Orange Valley, Trelawny	10 bundles (348 sticks)	
A. M. Lewis Mandeville	1 bundle (12 sticks)	
Mrs. Anna Maxwell, Myersville	1 bundle (50 sticks)	
Wm. Plummer, Balaclava	2 bundles (32 sticks)	
No Name	2 bundles (127 sticks)	
Total	31 bundles 3 Crates—1,834 sticks.	

N.B.—A good many of the sticks from some of these bundles had to be rejected as they had not crooked handles (which we are specially requested to send); were very much too thick, being more like logs of wood; were too long—and so unfit for shipment. We have likewise received several bundles which had to be rejected altogether for similar reasons.

We actually shipped 25 bundles containing 1,438 sticks (repacked from the above.)

Sticks for shipment should be about 3 feet long, have crooked handles, and be roughly dressed, though it is not necessary to have them polished. The names of the donors and the number of sticks in each bundle must also be plainly written on a tag attached to each bundle.

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*List of contributors (which we have been asked to publish) to the fund started by Miss Isabel Branze, Spaldings, to provide materials for making Guava Jelly; acknowledgment for the last 2 tins of 6, which she has forwarded at different times, appears above:—

Mr. Junor, 4/; Mr. Lyn James, 2/; Mr. Moses, 1/; Mr. McCaulay, 1/; ; Mrs Meikle, 1/; Mr. J. A. Williams, 1/; Mr. J. Freckkleton, 1/; Mr. Maxwell, 1/; The Misses Grey, 1/; Miss Munro, 1/; Mr. Smith, 6d.; Mrs. Carpenter, 3d.; A Friend, 3d.; Mrs. Mary Green, 3d. Total, 15/3.

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BRANCH NOTES.

GUY'S HILL (St. Ann.)—The regular monthly meeting was held on Thursday, 28th October, 1915. There were present, W. Cradwick, Esq., (Agricultural Instructor), twelve members and the Secretary. Among matters arising out of the minutes was a letter from Mr. Barclay, the Secretary of the Parent Society, informing the Branch that the men recommended as "Authorized Persons" have been duly appointed. There were three of them present at the meeting. The Secretary said that he had sent on the resolution, passed at the last meeting, *re* the present financial condition of the small settlers, but that no acknowledgement had been made of it. He was advised to write again. No sticks for the disabled soldiers had been actually brought in, but some were being prepared and further promises were made by some of the members. The Secretary said Mr. Barlay had promised to send some potato slips to Linstead, and Mr. Hay, the President kindly promised to get them up from the station. The Instructor advised that Mr. Barclay be communicated with directly if any more slips be required. Mr. Westmoreland moved that the Director of Public Works be written to and asked that some improvement be made to the road at the Guy's Hill and Gayle junction at the 25th mile post. Mr. Ayoub brought before the house a matter that has already been discussed—the pollution of the streams of water in the District; the Secretary was instructed to again write the Parochial Board on the subject, as also on the condition of the curve leading to Kellam River. Reports from "Authorized Persons": Mr. J. T. Lawrence reported that he attempted an arrest but the parties seemed to effect a compromise and prevented his going beyond an attempt. Mr. Martin said his name is still on the list of "Authorized Persons", though he has been a District Constable for some time now. The Secretary was instructed to inform Mr. Barclay of this. It was pressed on the "Authorized Person" present that they should report at every meeting of the Branch. The Instructor kindly promised to fetch some cacao seedlings and some cuttings of B. 208 canes from Hope Gardens on his next visit. Mr. W. Brodber

gave a very favourable report of the condition of cacao trees pruned some months ago by Mr. Gunter, the assistant Agricultural Instructor. The suggestion that one or two members be elected to select and read from the Agricultural JOURNAL at meetings any article that may strike them as being of special interest was heartily taken up, and Messrs. S. Martin and Wl. Irvine were chosen for that duty at November meeting. Discussion to follow their reading. The Instructor promised to attend in December when he intends to do some coffee pruning in the School Garden. He will also show the proper way to set out cacao seedlings. He is to demonstrate at Mr. W. Brodber's cultivation on the day of his visit at 9 o'clock, Thursday, 16th December. W. E. WATSON, Secretary.

SAVANNA-LA-MAR, (Westmoreland.)—A meeting was held on the 29th October. There were present: Rev. A. I. Dell, in the Chair, five members and the Secretary. As arising out the minutes, it was unanimously resolved: "That the Agricultural Instructor be requested to make arrangements for the lecture on the benefits to be derived from being a member of a Branch Society, which he had arranged to deliver in April last, but owing to his being called away to Kingston and other unforseen circumstances, could not be given. He will inform the Secretary as early as possible the date when he will give the address." The Secretary read a circular from the Secretary of the Parent Society *re* relaxing of rule with regard to journals. A letter was read from the Secretary of the Lethe Branch with copy of a resolution asking the co-operation of the Branch in the holding of an Agricultural conference at a centre and date to be fixed when the members of the Managing Committee of the Parent Society, the Agricultural Instructors and gentlemen of prominence in the Western Parishes be invited to attend and give addresses. The following resolution was adopted: Resolved that the Secretary of the Lethe Branch be informed that this Branch appreciates the desire to hold an annual Agricultural Convention in the manner outlined in the copy of the resolution transmitted with the Secretary,s letter dated 20th September last and will co-operate in the manner suggested as soon as the details as to the expenses connected therewith are made known and the means of meeting same are satisfactorily arranged. The Rev. R. C. Young, M.A., was elected a Vice-President. The following was agreed upon. Resolved: That owing to the fact that all forms of amusement are being held annually and are well supported and as this Branch has not had a show since the Hurricane of 1912, that arrangements be made for the holding of an Agricultural Show on 1st August, 1916. The meeting adjourned until 26th November, at 3 p.m. OSCAR M. SEATON, Secretary.

LAMB'S RIVER (Westmoreland.)—At a meeting held on the 5th November, there were 16 members and the Agricultural Instructor present. There was a discussion on the duties of "Authorized Persons," and it was decided that these "Authorized Persons" be specially invited to attend the meetings, and to give reports of the work they do as such, from time to time, and if they do not attend, then they shall be asked to resign their appointments. Letter from the Secretary of the Parent Society on arrowroot was read. He offered to pay 3d. per lb. delivered at the Railway Station. To this the meeting agreed, as this offer was better than that of last crop. Letter also from the Lethe Branch was read in which that Branch proposes an Agricultural Conference in the western part of the Island; but Mr. Briscoe advised the meeting that such a requisition is impracticable at this juncture. There was an open discussion on agriculture, as to what may he done to encourage the people in agriculture. The Secretary suggested that if it be possible to have periodical visits at the Montpelier Nursery by members of the surrounding Branches and others, then lectures and demonstrations might be given, in which may be seen the work carried on there from time to time, and these would have better effect than the Agricultural Instructor going to a meeting and lecturing on Cocoa, Banana, Cane, etc. Mr. Briscoe fell in with the suggestion, and promised to arrange for such a day at the Nursery. The date to be fixed later. In Mr. Briscoe's talk on cultivation, he strongly encouraged the upkeep of all crops, and discouraged the habit of working by "fits and starts." At the instance of the Secretary, it was decided to make a War Gift—in Arrowroot—2 barrels at least—the same to be sent through the Parent Society to two Military Hospitals in England. Each member of the Branch who grows arrowroot to give not less than 4lbs., and others the equivalent in cash to buy the necessary amount. It was decided that Mrs. Briscoe be asked to write a paper for the next meeting on the War. She will select the subject herself. The next meeting was fixed for the 17th December. U. L. BROWN, Secretary.

CAMBRIDGE (St. James.)—The November meeting was held on the 6th. Present: Messrs. Myers, (Pres.), the Secretary, the Treasurer, J. Briscoe, Esq., (Instructor), and 13 other members, besides a new member and 6 visitors. Messrs. H. C. Shekell and Thos. Virgo were elected new members. Mr. Briscoe informed the meeting that he had got all necessary books for the Penny Bank. The Secretary read a reply from the D.P.W. *re* resolution for Bridges in which he holds out no prospect of their being erected before the war closes. Notice was taken of the fact that our M.L.C. has not acknowledged receipt of two resolutions sent him. The resolution from Lethe Branch *re* a united annual Conference of Branches around was favourably entertained, and a resolution in its favour passed. A letter was read from Mr. Barclay showing that Mr. W. A. Reid's name was deleted from the list of A.P's. as he has become a rural Constable. Mr. Reid tendered a letter to the same effect and thanked the Society for its kindness to him. He was heartily congratulated on his promotion. Mr. R. Kentish, A.P., tendered his report which showed that he did no duties in October; but that his presence in his district as an A.P. was a deterrent to praedial larceny. Mr. Samuel Henry of Bruce Hall was chosen as an A.P. in Mr. Reid's place. The recommendation of another A.P. in the remote districts of Catadupa, etc., is under consideration. Messrs. Briscoe and Myers were elected as trustees for the Penny Bank and Mr. H. A. Stephenson, Secretary. At the close of the meeting the Bank was started with pleasing results. R. M. ARNOLD, Secretary.

FAR ENOUGH (Clarendon).—The regular meeting was held at the Good Hope Schoolroom on Monday, the 8th November, 1915, at 4 o'clock p.m. They were present: John Horn, President, the Secretary, 12 other members, and 5 visitors. Correspondence was read from the Secretary of the Parent Society as regards the "Authorized Persons", monthly Journals to members and resolution to Surveyor General in *re* Crown lands and lumber. A letter was read from the Inspector General of Police relative to recommendations for appointment of Authorized Persons, and about Benjamin Thomas' nomination to be appointed as an Authorized Person. The President moved the following resolution which was seconded and carried:—"It having been brought to the notice of this Branch, that the practice of putting clay, stones, and other foreign substances at the bottom of tins of wet sugar is prevalent and increasing in various districts, thereby discouraging the large buyers to purchase: It is hereby resolved that the Parent Society be asked to take up the matter, and petition the Government to make this dishonest practice an indictable offence." The President reported that Dr. Strudwick, D.M.O., will give a lecture on Water, at our next meeting on the 1st December, and that the Revd. George Turner, President of the Croft's Hill Branch is expected to be present on the occasion. The President brought to the special notice of members, that a recruiting meeting will be held at Chapelton, on Saturday, the 20th November, 1915, at 12.30 p.m., when His Excellency the Governor, and General Blackden will be present, for the purpose of getting young men to enlist as soldiers, hut they must be able to read and write a little, therefore he kindly requests all strong, healthy, able-bodied young men to attend that meeting, and have themselves enlisted as soldiers, for our Empire wants men and money, and that there is no line of demarkation now; men were fighting as brothers, shoulder to shoulder in the great cause. The meeting then adjourned to Wednesday, the first day of December, 1915.

J.C. ROBERTSON, Secretary.

VILLAGE—Sub-branch of Moneague (St. Ann.)—The regular monthly meeting was held on the 9th November, when 9 members, 11 visitors, Mr. E. Arnett, the Agricultural Instructor, and Mr. J. E. E. Armstrong, Assistant Secretary of the Jamaica Agricultural Society, were present. The Instructor was asked to preside, and in his opening remarks, he expressed his regret for not being able to visit the branch before. He then pointed out that the cultivations in the locality could be better improved by a system of drainage. He explained the various uses of the operation and said we should drain to air the land and to collect water. He advised side-trenching. He encouraged a more healthy unity with the Moneague Branch with which we are affiliated, as the outcome would be better for both branches. As the walking sticks promised had not been got up, it was decided to make this a matter of paramount importance. The following resolution was agreed upon: "That seeing the roads of this and the adjoining districts are in so bad a condition, thus rendering much inconvenience to pedestrian traffic, be it resolved: that a petition from this Society be sent, through the Moneague Branch, to the Parochial Board requesting early improvements." Mr. Armstrong then gave a very encouraging talk. He encouraged careful reading of the JOURNALS and the putting into practice of the facts gathered therefrom. He said that more can be got from the soil than any other industry if the right brain be put to it. He insisted upon the sending

in of the monthly Branch Notes to be inserted when possible in the JOURNALS. A question on troubles with yams was asked the Instructor by a member, and it was decided to send a sample for examination. The Instructor said we should always send our troubles to him as he was glad to solve these. He would visit the holdings of members for demonstration work if they wished. Cordial thanks of votes were given both gentlemen. Before the meeting, Mr. Arnett gave a spraying demonstration, both for plants and animals, which was very highly appreciated.

GEO. J. JOHNSON, Secretary.

BRANDON HILL (St. Andrew.)—A meeting was held in the Govt. Schoolroom on the 9th November. The following were present:—Nine members, the Secretary and Mr. A. P. Hanson, Instructor. Owing to heavy rains, the meetings are not well attended. The officers for the establishing of a Penny Bank were elected. The members were informed that as a result of a resolution sent from this Branch to the Half-Yearly General Meeting, the Government are in favour of introducing legislation to inforce scales with "two faces." The Instructor addressing the meeting, emphasized that immediate steps should be taken and attention given to the planting of cocoa, coffee, orange, grapefruit, and other citrus fruits. He carefully outlined the methods of planting, and explained the reasons for his advice, especially at this important crisis. These fruit trees, if planted, and when the fruit is fit for sale, will be of great financial help to the owners. A crop of peas and sweet potatoes will also do its part as a means of sustenance. The Instructor also pointed out the wisdom of getting healthy seeds, and suckers. The method of trenching was also gone into, showing the kind best suited for the hilly districts in St. Andrew. The President moved a vote of thanks for the Instructor's useful address. The meeting adjourned for the third Saturday in December. CHARLES E. KELLY, Secretary.

WALDENSIA (Trelawny.)—Mr. Rennie, Asst. Instructor for Lower Trelawny, visited the Sherwood and Waldensia districts on the 11th and 12th inst. On the former date he gave a demonstration in the School Garden and showed how young cocoa tres should be cared, and a part of the next day was spent in the fields of the peasants. On the 12th inst., the regular monthly meeting of the Branch Society was held. In the absence of the President, the Chair was occupied by Mr. Thomas E. Chambers, V.P.; 17 members and several visitors were present. Mr. Rennie delivered a short address on the condition of the present European War and the necessity for the Island sending a Contingent to the Mother Country.; after which an appeal was made to all present to render what help they could whether in giving fruits as Christmas gift for the soldiers, or in anything else. A large number of friends responded and made offers for fruit. Arrangements were next made for the putting up, etc. The subject of banana cultivation and corn planting was next dealt with. The Instructor showed the wisdom there would be if the small settlers would try to cultivate a small piece of China bananas always, which may come in as a kind of help when the storm has swept down all the Martinique trees. After another earnest appeal had been made by Mr. Rennie to the audience on corn planting in the district, the meeting adjourned. N. A. LIVINGSTON, Secretary.

MALDON (St. James.)—The monthly meeting was held on the 10th November. Present: The Rev. R. G. Chambers, President; Mr. J. Briscoe, Instructor, the two Secretaries and several members. The Treasurer gave a satisfactory account of the funds of the Society, showing a credit of £3 16s. 6½d. The Plymouth Rock cockerel, purchased by the Society to improve the breed of fowls in the district, was reported doing well. Correspondence: A letter from Mr. Barclay *re* "layers of clay at the bottom of sugar tins" was discussed. It was decided to inform him that such a practice is not known among our members, and that St. James is among those parishes where "temper lime" is used. A resolution from the Lethe Branch *re* "Co-operation in the holding of an annual Agricultural Convention;' was read and discussed. The meeting was of the opinion that while the ideas were good yet in view of the present economic situation it does not think the time opportune for its participation in such a movement. The Instructor then gave the meeting a very helpful and interesting address. He spoke on (a) Agriculture as a progressive movement; (b) the use of the JOURNALS; (c) Cultivation of manageable plots in preference to longer areas; (d) Systematic cultivation and rotation; (e) Calculating the cost of labour; (f) Sugar cane and cassava. With regard to the JOURNALS, he showed how extracts could be read and profitably discussed at meetings and that members who may not be able to read could have their children read, topically, useful portions for them. Sugar cane, the Instructor said, should have attention, and through co-operation among the members of a community, the making of sugar should be systematically done, in order to prevent the glutting of markets. Seasoning

able hints were also given and the cultivation of vegetables emphasized. The All Seasons and Succession Cabbage was recommended as superior to Drumhead as they can be grown successfully at any time. The rearing of rabbits was shown to be a splendid accessory to the growing of vegetables and none the less useful for domestic use. In moving a vote of thanks which was carried, Mr. McNab asked for hints on the rearing of rabbits. The Instructor replied as follows:—The coop should be boarded on 3 sides the front and bottom being wired. The food should be left to quail for about 2 hours before feeding. The animals feed more during the night. The young ones should not be touched. The buck should not be with the doe longer than a few hourss. The Belgian Hares are good. The members were much interested on the subject and immediately ordered 2 pairs and 1 trio. Mr. E. Foster, an Agent of the Atlantic Fruit Coy., whose subscription was paid, was nominated a member of the Society. Mr. J. W. Chisholm was deputed to visit Mr. A. Jarrett, the 2nd Vice-President, who is ailing. The meeting adjourned until the 10thprox.

J. T. MORRISON, Secretary.

DUANVALE (Trelawny.)—The monthly meeting was held on the 15th November, 1915. There were in attendance, the President, Rev. H. Gillies Clerk, in the Chair; the Treasurer, M. Rennie, Esq., Assistant Instructor, the Secretary and ten other members. A long and profitable discussion arose with relation to the planting of the cabbage and corn seeds. Mr. Reed reminded the Instructor of his promise with relation to asking the Entomologist to come this way to study the habits of the Parroquets. Mr. Rennie, after ascertaining from the members the time when the most corn comes in, and when the birds were most troublesome—being about January to February—proposed to ask the Entomologist to visit them about January. The Chairman says that he would like to see the members endeavouring to improve their corn so as to get the best seeds. Mr. Perrin, a visitor, with the permission of the Chair, gave the result of his experience on the planting of corn in his School garden. A long discussion took place on the best means possible of checking the destructive habits of the Parroquets. The meeting was at length of the opinion that they should be removed from the class of protected birds and destroyed. Mr. Rennie stated that it would be good for the Society in common with certain others, to send a gift of oranges to the Contingent in England. After a lengthy and interesting discussion, some members promised to interest themselves in the matter. Mr. Perrin was proposed by the Secretary and accepted as a member of the Society.

L. U. WELSH, Secretary.

PEDRO (St. Anns.)—The regular monthly meeting was held on the 15th November, commencing at 8 p.m. There were in attendance: Chas. Douce, Esq., presiding, the Secretaries and about 20 other members and many visitors. The debate on Horse *vs.* Cow proved very interesting and instructive. The basis upon which each started was £5 for 5 years. Proofs, in facts, were brought forward showing that with reasonable attention and care, the returns out of horse would exceed that from cow in these districts even for that limited time. The Authorized Persons were in attendance but they made no report. Mr. M. A. Harvey read an article from the JOURNAL in *re* Birds and Insects. There was evident surprise on the part of many to know that John Crow was not protected by Law. The members were unanimous in their condemnation of the Parroquets and Chicken-Hawk. The former is destructive to corn, as they open the husk and destroy the grains, and the latter a scourge to chickens. The Branch has authorized its Secretary to petition the St. Ann's Parochial Board asking for permission to use the Pedro-Market, now out of use, free, for a limited time, to popularize it. Two new members were enrolled and an interesting agenda fixed for the 20th prox. MILFORD A. HARVEY, Secretary

GIDDY HALL (St. Elizabeth.)—A meeting was held on Thursday, November 18th, at 4 p.m. Present: Rev. John Maxwell, President; J. Briscoe, Esq., Instructor, and several other members, the Secretary and one visitor. It was decided to ask Mrs. Maxwell, our late Secretary, to divide up the seeds into small packets which will be distributed free to members at the next meeting. Easter Monday was suggested as a good date for the Show. The President advised members to bring everything to the Show: sweet potatoes, yams, cassava, corn, etc. The Secretary took down the names of twelve members who wished to compete for the Show; he also took down a list of the seeds. It was decided that all who competed must be members of a Branch. The Instructor said that he had told the members of the New Roads Branch about our Show and they had raised 10/- and sent for seeds. The President thanked him on behalf of the Branch. In answer to a question by Mr. Ledgester, the Instructor gave directions for preparing a nursery bed, but advised the sowing of cabbage and tomato seeds in boxes. He said he liked when

members asked questions and would be glad if they would always do so, he then knew what they wanted to know. He then gave a most interesting address. He said that if people got no good out of the Society it was their own fault, for when they paid 1/- a year they got the JOURNALS which were worth a great deal more than that and after the Branch had paid the affiliation fee, the balance of the money belonged to the members and could be used to buy seeds to be distributed to members. He also spoke about corn mills and said if the Branch had funds it could not do better than invest in a good one for it would be a great boon to members. James Graham returned his Authorized Person's badge. The meeting was brought to a close with the Benediction. CHAS. L. STUART, Secretary.

ROCK RIVER (Clarendon.)—The regular monthly meeting was held at its usual place on Friday, the 19th November last. Ten members and Mr. Schleifer, the Instructor, were present. After discussing at some length a communication from the General Secretary in *re the non-reading* of JOURNALS by members of Branch Societies, a small Committee, with the Rev. E. V. Donaldson, as Chairman, was formed to select valuable subjects from each month's JOURNAL to be read at each meeting by a member of that committee. The Instructor urged on the members the utility in planting timber and shade trees on their holdings. The former, he showed, will come in "handy" in old age. A list of such trees as are obtainable at Hope Gardens was read to members present. The cultivation and curing of cocoa had its full share of attention. The Instructor asked the members to co-operate in securing suitable curing arrangements so as to be able to show up the best samples of produce which alone can demand the best prices available. The "Co-operative Scheme" launched by the Frankfield Branch was hit upon incidentally just here. Mr. S. Lopez our local merchant will give valuable hints at next meeting on the faults found with the produce offered him and the remedy. A small committee, with Mr. Sydney Lopez as Chairman, is to see after the proper working of our experimental plot. After such a fine season vegetation is literally smiling, the coffee crop is in full swing, and everybody looks hopefully towards the Xmas Season.

J. N. MORRIS, Secretary.

MOCHO (Clarendon.)—A special meeting was held in the Mocho Schoolroom on *Friday, 19th November, 1915. Present, seven members including President* and Secretary. The President in chair as usual. We regret to record that since July we had no meetings, caused by lack of attendance as also wet weather. The first item before the meeting was a motion by Mr. Barnes, that the Secretary get ready for next meeting the names of members who are in good standing, and those who are not. Second, that members to understand clearly that meetings be held as usual in the Mocho Schoolroom and not as rumour says to be removed to another place. Agreed. President moved that amount in hand collected at picnic held in August, being small, be made use of in getting up another (picnic) on Wednesday, *29th December, with a view to raise the amount. President moved:* That all forks now in the hands of members be brought in to the Secretary before next meeting Agreed. Amount of 5/6 in hands of the Secretary collected from G. Stones be handed to Treasurer. Agreed. Moved by Mr. Barnes, seconded by Mr. Alexander Allison, That if funds in hand be found sufficient, another G. Stone be bought for the use of members. Secretary was instructed to notify Treasurer that he is expected to attend at all meetings in future. Meeting adjourned till Friday, 3rd December.

S. AUG. FRANCIS, Secretary.

STURGE TOWN (St. Anns.)—The November meeting was full of life. It rained all the week, yet we had a good number of members attending, though they had to come through the rain. Mr. Thomas Lawrence presided. The rat campaign brought 157 tails. Total to date, 268. The presence of the "Authorized Persons" has broken down the petty larceny in the district to nil—anyway, at the present time. The Secretary's letter on Cassareep was read, also whatever information from other sources bearing on the subject was given by the local Secretary. Nicholl's Tropical Agriculture gives an idea of it. A paper on Co-operation was read by Mr C. A. Brown. It was nicely written. The house was unanimous in giving him a vote of thanks. The financial condition of the Society was next considered. The membership has risen from 35 to 41. The balance for the year ending September 1915, is 16/10¾d. Mr. Jno. Williams told us that he has corn now which he has from 1913 crop. Don't shell them, nor remove the covering of the grains; having them in an airy place or even outdoors, in a protected spot from extreme heat and cold, in pairs over a beam, and now and again, see that ants, rats, or weevils do not get at them. Mr. T. Lawrence moved that walking sticks be got for the soldiers. Carried. Mr. Chas. Thomson one of our members of the Society, shall be leaving shortly to join the Jamaica Contingent. S. JAMES PALMER, Secretary.

WALLINGFORD (St. Mary.)—The monthly meeting was held in the Schoolroom on Tuesday, the 23rd November, 1915. There were present: Rev. Mr. Brown, 1st Vice-President, in the Chair, ten other members, and the Treasurer. The Secretary, Mr. Baltimore Grey, having joined the Jamaica Contingent, Mr. T. Percy V. McDaniel was asked to fill the position, which he accepted. Mr. J. H. Williamson was also asked, and promised to act as Assistant Secretary. Letter from the Secretary of the Parent Society (*re* JOURNAL) was read and approved. The general rules were then read and filled in. The Secretary then read from September JOURNAL, page 363, "Shelter for Stock," which was then discussed, and Mr. T. H. Grey suggested that a bamboo flooring under the shelter was also a great help to goats, etc. The Treasurer presented his report. T. PERCY V. MCDANIEL, Secretary.

WINDSOR FORREST (St. Mary.)—A meeting was held in the Church Hall on Thursday evening, of the 10th October, 1915. Present: Wm. Cradwick, Esq., Agricultural Instructor; Mr. Armstrong of the Secretariat, Kingston; Miss Macnee; Lieutenant A. S. Allan; the Secretary, and fourteen other members. Lieut. Allan, in the absence of the President, filled the vacancy. After the reading and confirmation of the minutes, Miss Macnee presented letters from the Custos, Hon. Sir John Pringle and the Mayor of Kingston to the President, the Rev. James Macnee, J.P., requesting his and the people's co-operation in the raising of a sum for the Red Cross Society. This the members heartily approved of. A telegram from the President inviting members to meet at the Hall on Monday evening, 18th instant, for special meeting on recruiting was read and approved of by them. Letters *re* the getting of potato slips from the prison farm were read. It has been decided to try the slips, although members are of opinion that they may not be adaptable to these high lands. A petition from Messrs. Lowe and Foote, of Woodside, inviting members' co-operation in holding produce till a suitable price may be obtained, was unadvised, as it was thought these are not the days for pressing for high prices. Mr. Bent moved, and it was unanimously carried, that a suitable amount be sent from the funds of this Society to the Red Cross Fund. The Cocoa cultivation competition was exhaustively dealt with by the Instructor, who promised Monday, the 25th, for a demonstration in any members' cultivation. On the invitation of the Chairman, Mr. Armstrong delivered an able address, dealing with the two varieties of potato slips grown and obtainable at the prison farm, proving to the members that they are the best grown there, and advised cultivation of them. Congratulated the Authorized Persons in the absence of praedial larceny in the district there being no reports from them of an arrest for over two months. Suggested getting a corn mill from the Parent Society, when they may be had from £1 to £5 each, as the members are now clamouring for one. Pressed members to join the War Contingent if eligible. To send up walking sticks for the wounded soldiers, which is as little as any one can do. To enter for the Cocoa Competition, as there is nothing to be lost by it, but rather a gain, as the fields by that extra cultivation will give an increase of bearing, and a greater zest for future competitions. As Mr. Wynter, the Treasurer, is off the Island, Mr. H. A. White was voted to the position. It is hoped that at a next regular meeting a subscription be made towards the war fund. The meeting terminated. H. J. CROOKS, Secretary.

MT. HERMAN (Portland.)—The regular monthly meeting was held on the 21st October, 1915. There were present: Messrs. H. G. Blake, President; E. A. Gunter, Asst. Agricultural Instructor, The Treasurer, the Secretary and seventeen members. Mr. David Anderson became a new member. The Instructor spoke on the proposed Cocoa Competition Scheme for 1916, of which the members of the Society were greatly interested. A Committee was appointed to work up the scheme. Two papers were read by members of the Society, which greatly enhanced the interest of the meeting. The first paper was read by Mr. Alfred Tucker on fowl-rearing. The second by Mr. Alfred Moore on the curing of coffee. Both papers were full of useful information. The Instructor gave useful and interesting hints on fowl-rearing as arising out of Mr. Tucker's paper, especially in keeping them in coops. He also spoke on coffee-curing as set forth in Mr. Moore's paper. The Instructor after giving his usual agricultural hints on banana and cocoa cultivation, proposed to demonstrate at Mr. Alfred Tucker's field on Tuesday, 2nd November, and at Mr. Isaac Ivey's field on Thursday, 18th November. The next meeting was fixed for Thursday, 18th November, at 5 o'clock p.m., when Mr. Shadrack Forrester will read a paper on pig-rearing, Mr. H. S. Blake on agriculture generally. Mr. John Ivey on the cultivation of yams. Members were asked to fulfil their obligations before the next meeting. F. GREENWICH MCGRATH, Secretary.